THE

MEDICAL EXAMINER,

AND

RECORD OF MEDICAL SCIENCE.

NEW SERIES.—No. XL.—APRIL, 1848.

ORIGINAL COMMUNICATIONS.

Reminiscences of the effects of Chlorine, largely inhaled, with the favourable result of copious bleeding. By John Redman Coxe, M. D.

In looking over some old papers long since laid aside and forgotten, I lately discovered the minutes of a case of considerable interest to me, inasmuch as I was, myself, the subject of which it treats. I had formerly intended to draw it up in detail, as not undeserving of notice by the medical profession; but having so carefully, although unintentionally, placed those minutes away, I have hitherto neglected it,—not choosing to depend on my memory of the occurrence, after a lapse of nearly 35 years,—and it is only within a few weeks that I have accidentally recovered them.

It is well known that Chlorine (at the period adverted to, known by the term of dephlogisticated, or oxygenated muriatic acid gas) is a gaseous fluid, absorbable by water, and possessed of a powerfully pungent and suffocating odour; so very remarkable, as scarcely to be mistaken for any other substance. It is totally unfit for respiration, and has been productive of death by its incautious inhalation. The celebrated Pelletier had the hardihood (if I may so speak of that illustrious chemist) to respire it, but fell a victim to his temerity, for it induced a rapid consumption. In even a

moderate dilution of it in the atmosphere, it induces cough and catarrh, and animals plunged into it in its pure state are destroyed by it, and die, even before asphyxia is produced by the black and un-arterialized blood.*

In my course of Chemical Lectures in the University of Pennsylvania, during the session of 1811—'12, I had, in the order of the course, prepared a considerable quantity of this gas, in illustration of my lecture of the succeeding day, and the process was progressing when the class assembled. Several jars filled with it were on the shelf of my water bath, and the retort employed, of about two quarts measure, was yielding it to other receivers successively, during the delivery of my lecture. At its conclusion, as usual, many of the students flocked around me to observe the process, the larger portion proceeding to the room of the succeeding Professor. Engaged in replying to their numerous questions, whilst holding the retort and directing the escape of the gas with which it was filled, my attention was drawn from its immediate object, and by some unfortunate movement, the retort was jammed against the bath and shattered to pieces, the gas immediately escaping and completely enveloping me. In endeavouring to avoid this noxious material, I augmented the mishap by knocking over and breaking the receivers, and again receiving their full contents over my whole person. The gas speedily diffused itself around in every direction. As quickly as possible, the students retreated, and I was left entirely alone, with the unpleasant reflection that my preparations for the following day were entirely destroyed. Although my respiration was almost instantly affected on inhaling the gas, and a stricture of the fauces was quite perceptible, I hoped it would be soon so diluted by the atmosphere as to enable me to resume my process. I had, however, proceeded but a few minutes, when I was forced to cease, finding my lungs charged with this noxious gas, and that the difficulty of breathing was increasing, with an apparent constriction of the glottis, and an uneasy and dizzy sensation of the brain. I was led, from these symptoms, to feel my pulse, and found it weak and tremulous, leading me at once to cease all further attempts, and to proceed home as speedily as possible, being satisfied that I should soon sink under the influence of the gas, both as existing throughout

* See Dict. des Sci. Med. Article Chlorine; and Encyclop. Americana, &c.

the atmosphere and from that with which my lungs were replete. It was with difficulty I reached home, being in no wise relieved by the fresh and pure air; and I might, from the unsteadiness of my walk, have well been deemed to have taken an excess of spirituous liquor. I became now much alarmed, since, with an increase of the symptoms above mentioned, I found my pulse nearly reduced to a thread and diminished in its pulsations. All this, however, did not prevent me from speculating on my situation, and proposing to myself the question as to what measures I should recur for relief. I had no similar case in my recollection, nor of any mode of treatment that had been recorded; all I knew was that death had resulted from the respiring chlorine, either immediate or remotely, and I judged it might be my fate to add to the list. Whatever was to be done required instant execution. Blisters and evacuants, &c., I regarded as of a nature too slow to be beneficial; and considering that my lungs were replete with a fluid incompatible with beneficial respiration, and therefore that it was obvious the circulation of the blood through the lungs must be greatly impeded, as evinced by the pulse, and being thereby necessarily precluded from arterialization, I came to the conclusion that venesection could alone answer the end in view, and that, carried out to the fullest extent, as the only means by which complete engorgement of the lungs could be prevented, and myself possibly saved from speedy death from asphyxia, or from a species of peripneumonia notha. Under these impressions I reached home. My appearance alarmed my family, and anxious inquiries were made as to what was the matter. As no time was to be lost, I desired no questions to be asked, but to send for the nearest bleeder as quickly as possible, and that I would subsequently afford an explanation. The bleeder arrived in a few minutes; my pulse being now almost imperceptible, and my pulmonic oppression increased, with stricture and harsh dry cough. He tied up my arm, and I directed him to bleed me until I should order him to cease. My veins are very large, so that when I had occasion to employ venesection, I usually bled myself; but now, the veins were with difficulty distended, and the blood issuing from the orifice, slowly oozed out and trickled down my arm, of (as I expected) a dark, nearly blackish hue, resembling molasses in consistence. I was nevertheless thereby encouraged in the opinion

I had formed, but I found no relief to my feelings, or change in the fluid, when nearly twenty ounces were discharged. By this time the bleeder was beginning to be alarmed, and wished to tie up my arm, but I ordered him peremptorily to proceed. In this I was somewhat encouraged by a slight supervening nausea, which inclined me to hope that some change was about to ensue; it however soon subsided, and when upwards of thirty ounces had been drawn off, I began to experience a small relief from the oppression of my lungs and head, although my pulse continued its thread-like character, and the blood, in its flow and appearance, continued as before; nor was it until nearly forty ounces were obtained, that I could perceive any change in the pulse as to frequency or strength, nor in the sluggish flow from the orifice of the vein; a few more ounces discharged, had, however, the effect of unloading the vessels, and the pulse was obviously rising, yet with no alteration in the colour of the fluid; but I was now confident that in a short time my lungs would be relieved, and a free circulation thereby restored. Such was the fact, but more than forty ounces were in the basin ere I was gratified in perceiving a slightly vermillion tint usurping the molasses hue of the blood. This rapidly increased, and in a few seconds the hitherto stagnant fluid burst forth in a full and rapid stream, the veins became turgid, the relief of my lungs was greatly improved, and my respiration nearly free. Fearing that all the former symptoms might resume their sway, I determined still further to evacuate the vessels, more especially since I perceived my dry cough was giving way to a free discharge from the lungs, and I would not arrest the bleeding until nearly or quite sixty ounces had been drawn off. Greatly to the satisfaction of the operator was my order to stop the flow and bind up the arm; this he had no sooner effected, than he speedily decamped from whence he had been so thoroughly frightened I experienced but little sense of weakness from this free evacuation, but I was prevented from rest, on retiring to bed, by the continual cough and copious discharge of phlegm. This cough, in the course of an hour or two, set my arm bleeding again, whereby I lost probably five or six ounces more of blood, and with much relief. I confined myself to simple drink, as barley water, &c., and at night, by the aid of some sweet spirits of nitre and paregoric, I rested better than I had anticipated. The morning found me greatly relieved

in all respects; though the cough and expectoration were much diminished, they did not altogether cease for nearly a week,—and after a slight breakfast, I felt so much improved, that, in opposition to my family, (and, perhaps, to prudence,) having no apprehension of any further danger, I determined to go to the University. I did so, and delivered my lecture, which was only rendered difficult or interrupted by my cough. When this entirely ceased, I found my lungs altogether free from the slightest affection; and now, after nearly forty years, they are vigorous and healthy, as in the period of my youth, having never during that lapse of time suffered the slightest pulmonary affection as the result of my unfortunate mishap.

Having been thus particular in detailing the circumstances of my own case, as a caution to others, and to point to the necessity of prudence in experimenting with this extraordinary agent, and with its congeners—such as "Chloroform"—(a barbaric term,) I may be allowed to ask, what would have been the result of any other mode of treatment? What other, indeed, could possibly have had a favourable termination? If speedy death had not followed the state of asphyxia into which I was rapidly hastening, any other plan, I doubt not, could only have prolonged life for a short interval; whilst disorganized lungs, leading probably to tubercular consumption, would inevitably, in a few weeks, have carried me to the grave. Reviewing my case, then, both physiologically and pathologically, my conviction is complete, that nothing but the prompt and copious discharge of blood could possibly have saved me.

Whilst on this subject of chlorine, I will embrace the opportunity of stating another instance of its effects, occurring likewise in my own person—not in its gaseous state, but in that of a concentrated aqueous solution, and at a subsequent period, evincing its prodigiously powerful and rapid action on the Schneiderian membrane. During one of the weekly examinations of my class, a Woolfs' apparatus, in which I had been preparing the gas, was left to itself; the extrication of the gas ceasing by removing the lamp from under the retort, the gas was absorbed by the water in the range of receivers connected, and allowed the water from the furthest to pass back into those nearest the retort, in consequence of the vacuum produced. Desirous of expediting the renewal of

the process, I replaced the lamp, and, without reflection, very foolishly undertook to draw off some of the air in the remote receiver by applying my mouth to the tube of safety, thereby to diminish the pressure, so that the foremost receivers might cause the fluid that had passed into them more readily to regurgitate: the bent tube serving as a valve by the water in its curvature, was (as might have been expected, had I reflected) largely impregnated with the chlorine, and on drawing it up into the mouth, the fluid instantly diffused itself over my fauces, inducing a sensation in the frontal region, similar to that produced by an excess of mustard on our food. I discharged at once the fluid from my mouth, but was instantaneously seized with the most violent attack of sneezing and copious discharge from the nostrils that I had ever experienced, even from the severest cold, and I was obliged to suspend my examination altogether. This state of things continued for more than two hours, when it gradually subsided, but a considerable sense of soreness of the parts remained for several hours. It proved, in short, the most powerful errhine and sternutatory that I remember to have witnessed.

Before I conclude this paper, I will take the occasion to advert to the apparent resemblance of the blood drawn from me in the partially asphyxied state that I have described, both in colour and consistence, with a portion of blood taken from the right side of the heart of a patient, who died of cholera in 1832. This blood, (which I yet have) was received into a greenish-glass phial; but desirous of viewing it to more advantage, I poured it thence into a *white* one. I was greatly struck by its sluggish and tenacious character, as it passed into the latter, trickling down the sides like molasses or copaiba, and leaving a portion adhering to the *green* phial from which it was emptied. So much was this the case, that I was induced to add to what thus remained adherent, as much water as gave it the apparent liquidity of healthy blood, the amount being about four or five parts. The blood in the white phial has (now more than fifteen years corked up and sealed) a rather lighter hue than at first, which may probably arise from the oxygen of the atmospheric air in the upper part of the phial, but not the slightest disposition to coagulation, or a separation of serum, has ever been noticed; it continues to retain its primitive sluggish character. In the other phial to which the water was

added, and well shaken, the blood gradually subsided to the bottom in dark grumous flocculi, leaving the water, ultimately, perfectly transparent and untinged.

Whether any practical deductions may be drawn from these facts, I am not aware. Yet, since venesection has been advantageously employed in some cases of intermittent, during the cold stage, and in which a somewhat similar state of the blood has been found to exist, I am inclined to believe that in cholera, in its progress towards its asphyxial or collapsed state, copious venesection would be highly useful, and probably would cut short its continuance and fatal tendency. By copious depletion, less blood would necessarily be carried to the intestines, and thence a less copious amount of its serous portion would be discharged in rice-water stools. Certain it is, that every plan pursued in 1832 appeared inadequate to arrest the discharges, or to check the disease; and the cures, so-called, to me appeared to be more the result of nature than of art! That the whole venous system is engorged, is obvious. No arterial secretion continues, as is evidenced in the almost entire suppression of the urine, whilst the gall-bladder was invariably surcharged with bile, of venous origin. The serous portion of the blood, thus early discharged by stool, renders it impossible for the crassamentum to circulate by the arteries, and from a want of a vis-atergo, it must remain congested in the veins and capillaries, as seen in the livid appearance of the lips, the fingers and other parts of the system. From the same cause (a want of appropriate serous dilution,) the blood ceasing to flow in the lungs, or at least greatly impeded, its arterialization is necessarily imperfect; and should any of it find access to the left side of the heart, it must be more of the venous than of an arterial character, and consequently inadequate to the necessities of the system at large. It may be said that bleeding has often been attempted and failed to obtain any blood! Unquestionably such has been the case—but why? I doubt not, from not being employed at a period sufficiently early, whilst the serum was as yet undiminished. In the preceding case I have stated of myself, it is clear that I was rapidly advancing to that state of asphyxia when bloodletting could not have been accomplished, and I should soon, probably, have been in a state of collapse somewhat like that of cholera. My evacuation was made in less than an hour from the accident

that rendered it necessary, and hence, apparently, its successful issue. If any should fear to bleed so largely, let them recollect the amount of blood lost from wounds on the battle field, or from other hæmorrhages, without the loss of life; let them remember that death is at their elbow, watching their movements, and awaiting his prey, if the practitioner is afraid to perform his duty. The system can long maintain its living state with a very small amount of blood, inadequate in a state of health, but fully sufficient in that of syncope or collapse. It is at all events deserving of a fair trial, since it cannot possibly be less successful than that of the thousand nostrums that were tried and found ineffectual amongst us in 1832. Speculation upon speculation has been resorted to, to explain the origin and progress of this extraordinary disease; and not less extensive have been the attempts to fathom the mystery of its nature, essence or proximate cause. Hence the discrepancy of writers as to the operation of its remote causes on the ganglionic nerves, with other idle guesses, the one of equal obscurity with the other. The various recommendations as to its treatment, founded chiefly on such indefinite and unproved doctrines, have consequently, in great measure, proved abortive, and have led to ill-timed delay in a more efficient treatment, from placing too great dependence on deceptive theories. It may be affirmed, I think, that like small pox and many other diseases, we know nothing of their origin, or the modus operandi of their remote causes upon the living system; and that, instead of perplexing ourselves in such occult researches, it would be far preferable to exert ourselves in their treatment, the perfection of which, in respect to many, is, to say the least, extremely problematical.

I am perfectly aware that bleeding has been resorted to in cholera—as may be seen in the very excellent account of the disease, and its treatment, in the Cyclopædia of Practical Medicine, Lond., 1832; or in the 13th vol. of Encycl. Americana, into which it has been transferred. This is a subject of much interest, now that a renewed visit of cholera is beginning to be anticipated; and I may be pardoned for making a few extracts from the work referred to, as worthy of reflection. In speaking of the pulse, after mentioning the symptoms of the attack, it states, that

"The pulse is from the first small, weak and accelerated; and,

after a certain interval, but especially on the accession of spasms or severe vomiting, it sinks suddenly, so as to be speedily lost in the external parts. The length of time during which a patient will live in this pulseless state is remarkable. In a case related by Dr. Kellett, the pulse was gone within three hours from the attack; yet the man lived twenty-two hours in that state," &c.

"The state of its (the skin) circulation, and its insensibility, are sometimes strongly denoted by the following circumstances: leeches will not draw blood from it; blisters and other vesicatories will not act; and even the mineral acids and boiling water produce no effect; and some patients are not even sensible of their application," &c.

"The breathing is much affected, being performed either more slowly than usual (sometimes, for instance, in the advanced stage, only at the rate of seven respirations in a minute), or the inspirations are short and sudden," &c.

"The secretions (those of the skin and intestines excepted) are generally suspended."

"The most fatal variety of the disease was denoted by the slightness of the commotion in the system: there was no vomiting; hardly any purging; perhaps only one or two stools, with no perceptible spasm; no pain of any kind; a mortal coldness, with *arrest of the circulation* coming on from the beginning, and the patient dying without a struggle within three or four hours," &c.

"Besides the various and appalling symptoms which indicate general derangement of the action of the solids, there are appearances in the blood, drawn during the *collapsed stage*, showing that the fluids feel the influence of this formidable disease. These appearances are very uniformly expressed by the terms *dark*, *black*, or *tarry*, in regard to colour, and by *thick*, *ropy*, *syrupy*, or *semi-coagulated*, in respect to consistence. This change in the condition of the circulating fluid is fully proved to be in the ratio of the duration of the disease; the blood at the commencement seeming to be nearly or altogether natural, and more or less *rapidly* assuming a morbid state as the malady advances," &c. (variations are noticed here)—the blood in some cases flowed readily from the vein;—"but the reverse was the fact, both with respect to its condition and the manner of its flowing from the arm, in an immense majority of instances.—☞ In general, after a certain quantity of dark, thick blood had been drawn, its *colour became lighter*, *its consistence less thick*, *and the circulation revived*," &c. "Reporters are unanimous in declaring it (the blood) deficient in serum, and destitute of the buffy coat," &c.

"The discharges from patients suffering under this disease were subjected to experiment by Dr. Christie. The secretion consists of two substances, the one a transparent serous fluid, the other an

opaque, white coagulum; the former perfectly soluble in cold water, the latter quite insoluble. These matters being submitted to the action of reagents, the fluid part was found to be *pure serum*, and the coagulated portion *fibrin*. The secretion, therefore, as the author remarks, has a composition similar to that of the blood deprived of its colouring matter; but the serum is in *much larger* proportion to the fibrin," &c.

"The urine is suspended throughout the whole course of a choleric stage so intense as we have described,"—(the cold or choleric stage.) The author divides the disease into three stages—"the *incipient*, the *cold* or *choleric*, and the *febrile*."

In the appearances on *dissection*, marks of congestion are found in the *head*, and effusion, &c.—the *lungs* "more frequently *gorged with dark-coloured* blood, so as to resemble liver or spleen"—"*both sides* of the heart in general distended *with dark blood*, and the bronchi are frequently filled with mucus"—"the vessels of the *liver* often much congested, and *pour forth blood copiously* when incisions are made into the organ"—"the *gall-bladder* is turgid with *black bile*, &c.—peritoneum investing the alimentary canal has frequently an inflamed appearance from the *exceedingly loaded* state of its blood-vessels," &c.—"venæ cavæ and *coronary vein* distended with dark-coloured blood"—"the *kidneys* have been observed to partake of the *general congestion of the venous system*, the *bladder*, generally contracted, and either empty, or containing a *small quantity* of urine," &c. "The affection of the alimentary canal is essential and primary, if any part of the disease is so; and it were vain to attempt to trace it to a morbid condition of any other organ or system of organs."

In the cold or choleric stage, the writer points out the circumstances which render bloodletting appropriate or otherwise; "its safe administration *should be early*," &c.; but he points out "three periods of the disease, at which, according to (his) experience, bloodletting may be employed," &c. &c. The whole communication deserves especial consideration from the medical profession at the present period; that, duly estimating its relative merits, &c., they may be prepared to meet this most extraordinary disease, should it again appear amongst us.

Amongst the hitherto inexplicable diseases to which man and many or all of the inferior animals are subject, may be mentioned rabies and that excited by poisonous reptiles—as we have lately seen fatally exemplified in Dr. ——, of New York. Of the particulars of this interesting case, I presume we shall be duly informed. I refer to these—inasmuch as the poison of the rattle-

snake and viper have been taken *with impunity* into the stomach, that great centrum sympathiæ! and yet the slightest amount conveyed to the system by the minutest capillary, is capable in a few hours of terminating existence! Both these diseases may be safely styled, opprobria medicorum. In fact, few of the medical profession have an opportunity of seeing either of them;—and when presented to view, have no definite ideas as to their nature, or mode of treatment. One thing alone appears certain: that it is alone through the medium of the blood, that the morbid poison is conveyed internally.

The nature and character of hydrophobia is of extreme interest at the present time to the citizens of this (and perhaps other) cities, from the statements of many of its inhabitants having been bitten by mad dogs. Without entering into a disquisition of a disease, of which we absolutely know nothing, as the conflicting statements of medical writers for ages past in relation to it testify; I shall merely recall to mind, that, in several recorded cases, bloodletting would appear to have been successfully resorted to—although the number is perhaps too small (as yet) on which to found a regular and imperative plan of treatment. Now, in several dissections of persons dying of this disease, the same *dark* appearance of the blood—the same engorged state of the lungs and capillaries—were observed as in cholera; although, unlike it, the blood was *very fluid*. This difference is easily explained, from the one having discharged all its serous portion, whilst it was in full amount in the other: nevertheless, the blackish tint indicates the action of some morbid cause upon it.

The blood is a fluid, sui generis—such as man cannot compound. It is entirely unconnected by adhesion to any part, in its ceaseless flow; and yet is essential to the existence, the nourishment, and vitality of every organized tissue of the body; we know not where, nor how it is created from the inanimate mass of chyle received. It is an imperium in imperio; and is, apparently, governed by laws exclusively its own; for it has no nerves, or actual connexion with them: and hence is devoid of sensibility! It is, in short, the primum vivens, the ultimum moriens of created beings—and in every respect corroborates the scriptural doctrine, that "in blood is the life of man." Hence, and hence only, can we comprehend the high estimate put upon

it by our great Creator!—hence, the eating of it was prohibited to His chosen people;—hence, it was the part of the sacrifice that was peculiarly offered to the Divine Majesty;—hence, the *absolute law* laid down by God himself, and *never abrogated*, under the old or new covenant—that "whoever sheds man's blood, by man should his blood be shed;" and to all this may be added—that, in the extensive compass of medical literature, from the earliest period to the present time; amidst the numerous varieties of monsters, recorded by anatomists, of the want of head, brain, STOMACH, lungs, heart, intestines, liver, bladder—in short, of *every individual* organ or tissue—the *blood alone has never*, never been found wanting! This wonderful, and almost self-existing appendage to the microcosm of animal life—this alone, I repeat, has never been found wanting!—and yet our exclusive solidists and ventricular sympathists, cannot admit its appropriate connexion in their physiological and pathological dogmata.

To recur however to hydrophobia, I would earnestly suggest to the practitioners of medicine, to devote some time and serious reflection on this disease; which, like the cholera, may take us unawares;—to abandon the heterogeneous plans of treatment so generally persisted in, and so universally fatal:—to give up all idea of *specifics*, whether mineral, animal, or vegetable;—to abjure even the scutellaria or skullcap;—and, in short, resolve to chalk out some new mode of treatment that may present a plausible and a reasonable hope of success: of such a treatment, I would earnestly present the claims of bloodletting, (to what extent experience must direct,) and accompanied by the operation of bronchotomy, long since proposed by Dr. Physick, in order to sustain respiration, during the violent and prolonged convulsions, with stricture of the glottis, &c., which are concomitants of the disease, and during which the patient usually expires.

Chloroform in Surgery and Midwifery. By CHARLES H. CRAGIN, A. M., M. D., Georgetown, D. C.

Having used this agent in several operations, and also a few times in medical cases, I offer the following as the result. My first case occurred in a boy ten years old, who had been attacked the previous winter with acute inflammation of the right fibula, which resulted in necrosis. The boy was in other respects in excellent health. I placed the patient under the influence of chloroform in about two minutes. At first he struggled and complained of being strangled, probably from its being used too rapidly and in too concentrated a state; but at last he lay quiet and snored through the operation, which lasted some half hour before the wound was dressed and he placed in bed. Not the slightest manifestation of pain or consciousness was shown throughout. I noticed considerable rumbling in his bowels, and after all was over, though he lost but little blood, his pulse fell and became alarmingly small and feeble. We opened the doors, exhibited spts. ammoniæ, applied cold water to his face with a dash, when he tried to vomit, and soon threw up his breakfast. After taking a teaspoonful or two of strong brandy he revived, but did not become fully awake before an hour or more. I used in this case doubtless too much chloroform, as the gentleman who had charge of the handkerchief threw on drachm after drachm, and kept it constantly applied to the face. In all, nearly an ounce was used. I remained until his pulse regained its force, and no accident subsequently occurred to the boy, who complained the next day of no headache, but of being starved. He is now running about and quite well. It is worthy of remark, that this boy has a younger sister who has caries of the right tibia very close to the knee-joint, and that he lost an older sister some two years since, before I knew the family, with some disease of the bones.

CASE II.—A married female, aged 24, two weeks after her confinement, sent to consult me about her arm. I found the left humerus much swelled a little below the middle of the bone, tender on pressure, paining her at all times, but at night greatly aggravated. She had suffered thus from childhood, and had exhausted all means that medicine could offer without avail. I proposed to

her to take the chloroform, and then I would open the bone with a trephine, and perhaps I might find abscess there as the cause of her sufferings; and if not, the discharge from the vessels of the bone and the soft parts, aided by the internal administration of iodide of potassium, might effect a cure. To this she assented. It required nearly three drachms of chloroform to soporize her. At last, supposing her asleep, I commenced my incision through the soft parts, when I was interrupted by a scream from my patient. I stopped a few seconds till she breathed in a snoring manner, and then completed the operation. Pus was discharged and the cavity kept open with lint, and the wound dressed, when she awoke. She seemed confused for a few seconds, but complained of nothing; she recollected my first cut with the knife, but all the rest was unfelt. She, too, had not the slightest ill result, but is entirely relieved from pain, and the wound discharges less and less; she says she is better than she has been since she could recollect. The pulse in this case was, from mental anxiety, probably, about 100, but as soon as she became soporized it fell to 72, and soon to 45, where it remained full and of some force till the moment she awoke, when it rose again rapidly. She awoke without any stimulus.

Case III.—I removed a tumour from the shoulder (immediately over the joint) of a coloured woman in good health, aged 37. She tried hard to remove the handkerchief from her mouth, and rose several times from the chair, but finally fell asleep after inhaling three or four drachms of the chloroform. I soon dissected out the tumour, which was fatty, and enclosed in a cyst about three inches in diameter and one and a half thick. Her pulse soon fell to 35, (but full,) where it remained for some minutes, then very gradually rose to its natural standard. She was talking of a variety of things during the operation, without any signs of suffering; said she was "safe, as Christ was at the helm," &c. She gradually awoke while the wound was being washed and exposed to the air to arrest hemorrhage, and asked "why I didn't take out the tumour." After some time, without any further use of chloroform, I proceeded to unite the flaps in the integuments by several sutures, some of which she felt, but most of which she did not. I showed her the tumour, which she felt and looked at for some time, but asked again, in a few minutes, "what I was waiting for? she

wanted that tumour out." I again showed it to her, and she was surprised that it was taken out without her knowledge, but soon forgot it again, and asked me to "make haste and take the tumour out of her shoulder." Does not this incident prove that as the eye saw distinctly, and it was forgotten a moment afterwards, so pain may be actually felt when sleep is produced but entirely forgotten when awake? She was a little sick at the stomach when she woke, but since has had no unpleasant feeling or effect whatever from the chloroform. The wound is healed well.

Case IV.—I removed a painful warty growth from the back of the neck of a lady, aged 35, and in good health. Instead of sleeping after inhaling the chloroform, the muscles of the neck became rigid and her tongue loose, so that it went as rapidly as it well could. After three or four strokes of the knife, I removed the wart without any signs of suffering on her part. She still talked incoherently for some minutes, but at last awoke. She said she had seen a great flame, and had passed by this to heaven, where she had been all the time. She was much surprised when I showed her what I had removed from her neck during her eloquence. She soon complained of nausea and vomited, but after lying down a little while she recovered entirely. Her pulse was natural throughout, and she has had no bad symptom since, except loss of appetite for a day or two. I learned upon inquiry that laudanum affected her in much the same manner as did the chloroform.

Case V.—I performed the operation for absorption on both eyes of a coloured man, aged 56, affected with soft cataract. I had great difficulty in getting him under the influence of chloroform, as he breathed the fifth drachm before he became quiet and insensible. It seemed to irritate his lungs, exciting a cough. At length he got up, refusing to take any more of the "bad stuff," but finally yielded and fell asleep. The pupils had been previously dilated by belladonna, but they seemed to contract slightly from the chloroform; the operation was soon completed without any sign of pain. His eyes were a good deal suffused before I commenced; his pulse not materially affected, but a little depressed. He continued sound asleep for fifteen minutes after the operation, and then awoke, complaining of nausea, which soon, however, wore off. Still being

drowsy, we laid him upon the bed, where he continued to dose and wake for an hour. He complained two days after of the taste of the chloroform in his mouth and a slight pain in his breast; but these soon left him, and he is now doing well. He is the only one to whom I have given it who would prefer to undergo the same operation again without chloroform. In this case I made use of a small glass inhaler, invented by Rushton & Clarke of New York city. I think that *it* was the cause of the cough and other symptoms of pulmonary irritation of which he complained. I should certainly not use it again in any case. I can inhale the chloroform from a handkerchief without any discomfort, but with the inhaler my lungs were excessively irritated, and I could scarcely breathe.

Case VI.—Ann Contie, æt. 45, consulted me about a tumour which was developing itself rapidly in her left mamma, which presented all the characteristics of scirrhus; and as it pained her much and disabled her entirely, I advised its removal. The operation took place Tuesday, March 14th. She was a good deal agitated at the time, and much excited by the presence of the gentlemen who were there to assist me and see the effect of chloroform. Upon exhibiting this to the extent of between two and three drachms she became outrageous, and could with difficulty be held in her chair; and as her pulse was depressed, and she begged "no more of that," I thought it prudent to desist, and completed the operation without it. She screamed loudly at my incisions through the skin, but afterwards was perfectly quiet, so much so that some thought she was under the influence of chloroform; but this she denied, declaring she was suffering much. Nothing worthy of remark occurred subsequently. One reason why so much less chloroform is requisite in obstetrics than in surgery, and why that smaller quantity acts so much more rapidly and pleasantly, is the different state of the mind in the two cases; the instinctive horror of the knife, as well as the shrinking from the untried experiment of losing your senses, places the mind in a state of excitement difficult to be overcome. In labour, the sufferer feels the pain present and increasing, and generally begs you to give her ease. She inhales with gladness, and besides this no unknown and curious faces disturb her privacy. The chamber of her confinement is sacred, and every

thing conspires to render it the very reverse of the operating room.

I have found the greatest possible benefit from chloroform in colic. The first time I used it in this distressing complaint was peculiarly gratifying. I found the patient almost exhausted with violent cramp colic, after having taken a good dose of castor oil with laudanum, and the usual domestic remedies having been applied without any effect. I then used the chloroform, and with such success that in two minutes he lay perfectly quiet in his bed, and though not asleep, yet entirely free from pain. I directed hot fomentations to be assiduously applied and a large warm injection, to be repeated, if necessary. He was so perfectly easy, however, that the family did not think it worth while to disturb him by any further remedies. I left him at 7 o'clock, P. M., and he continued thus till 10, when becoming a little uneasy, my remedies were tardily administered and the man soon became well. I have used it to procure sleep in a case of acute ulceration of the knee-joint, where the usual opiates had failed to procure a moment's ease for two days. In this case I administered it five different times, and each time with most happy results; refreshing sleep followed, and the case soon recovered. In painful diseases of all kinds, in anæmia with its neuralgias, in spasmodic asthma, &c., I have prescribed it for intelligent patients, directing ten or fifteen drops to be placed upon a handkerchief and gradually inhaled until a slight giddiness was the effect, and this repeated daily *pro re nata*, with the happiest results. I think, however, that in every case the lungs and heart should be carefully explored before its administration; any degree of congestion of the former or obstructive disease of the latter, especially dilatation, should forbid its use. In all cases, too, I consider it safest to have the fingers upon the pulse during its exhibition, and stimulants at hand, so that upon any faltering of the pulse, or any approach of danger, the use of it should be at once suspended and remedies used. Neither would an electro-magnetic machine in operation be an idle provision, as I have no doubt that had such a powerful stimulus to the heart been in readiness in the fatal cases reported, and at once resorted to, they would not have resulted so unfortunately. Pain itself is a stimulus, and its effect is directly as its severity up to a certain degree. This is one reason why I believe that chloroform is particularly safe in obstet-

rics. But a still greater reason for its general use in this department of the profession is, that a much less sound sleep is requisite, and a much smaller quantity of this powerful agent needed to effect the purpose. And as such cases are almost infinitely more frequent than cases of surgery, it is in midwifery that I believe chloroform will achieve its greatest triumphs and with the fewest accidents; with none, if proper precautions are used.

Besides these cases I have used it in several minor operations in surgery, and have witnessed its exhibition many times in the extraction of teeth, and hitherto have seen no more unpleasant results than a temporary nausea and emesis. In one case, when I did not wish or think proper to use it, but was urged, I consented to try it cautiously, but was soon compelled to stop, as it gave rise to unpleasant sensations. Upon the whole I should not countenance its exhibition in dentistry,—certainly never without the careful preparatory exploration of the chest by a competent physician. But even if it be used in the free and unguarded manner, as it has been hitherto, with so few fatal results distinctly traced to its influence, how small is that fatality compared with the loss of life from the use of steam in travelling? Those scores of accidents by which such a number of persons annually come to an awful death, do not prevent the public from using the steamboat and railroad car. Neither, *a fortiori*, as pain and agony are more important than mere time, should the two or three cases of death reported in the newspapers as occasioned by the use of chloroform, prevent the general careful use of this agent in midwifery and surgery.

Chloroform in Midwifery.

Case I.—Feb. 20, 1848. Being called at five o'clock this morning to Mrs. C——, a healthy female, already in labour with her seventh child, after proper examination I concluded to try the effects of chloroform. I had already used this agent in a variety of surgical operations with success and without the least unpleasant consequence, and felt anxious to test it in this case. The os uteri was well dilated, the pains frequent and severe; and when I told her that I would put her to sleep so that she could have her baby without any pain, and without any danger either, she urged me to do so. Pouring thirty or forty drops upon my handkerchief, I

placed it about two inches from her face, telling her to open her mouth and breathe it in with long, deep inspirations, and after a breath or so I placed it nearer, till it finally rested loosely over the face. She soon showed by a few motions of the arm that she was under its influence; the pains seemed to be suspended, but using it less freely they came more and more frequently and forcibly, until in less than an hour after she commenced taking it the labor was over. When each pain seized her she caught hold of my hands, bearing down with all her force until it was over, when she lay perfectly still again. Once she partially awoke and begged me to put her to sleep again. When the head was passing the external organs, I had left her head, and she became partially sensible of the pain; but this was all she felt, as she told me, and that was not severe. She remained awake after this, but I was satisfied with my experiment. She had no headache or any unpleasant effect afterwards from the use of the chloroform, and mother and child have both been doing remarkably well to this time. Her pulse was perfectly natural and undisturbed throughout. I might mention that she vomited several times previous to taking the chloroform, but that stopped so soon as she fell under its influence.

Case II.—Mrs. S., of Washington, already the mother of eight children, in her confinement with each of which she had had exceedingly painful and protracted labours, was looking forward to her coming confinement with excessive anxiety and dread, when she heard of the use of chloroform in such cases and sent for me. After stating these facts to me, she asked if I thought she could take it with safety? I found her pulse full and strong, her health robust, with nothing in her past or present medical history to contra-indicate its use. Her labour had usually lasted from twelve to thirty-six hours, with irregular pains, which did not become effective till after venesection. She once had laboured under asthma, but now was free of it; and after an exploration of the heart and lungs, I advised her to make trial of the chloroform. To this she joyfully assented. I was called to her Wednesday night, March 1st, about midnight. She had been teazed with pretty sharp pains all day, but was sitting up; pulse 100, full, strong; pains irregular, but about every fifteen or twenty minutes. Upon examination I found the head high up and the os partially open, but rigid. She remained thus till 5 o'clock in the morning, when I found her pulse

110 and strong; the os a little more dilated, but still unyielding, and with an edge as if surrounded by a wire; pains irregular, but harder, and recurring every ten or fifteen minutes. She continued in this way till noon, when I bled her to the extent of a pint, and finding the neck of the womb more dilateable and the pains more frequent, I ruptured the membranes and gave her the chloroform. I used it in the same quantity and manner as in my first case, and after a few inspirations she said, "now I feel it, now I'm going, I'm gone." Soon after a pain seized her more severe than any hitherto, and she made great exertions to bear down. During the continuation of her labour she lay with composed features, as if in tranquil sleep at times, but generally talking to herself, and praying most devoutly, in beautiful language; looking about her calmly and speaking to some ladies, her friends, who were present; sometimes calling them by their right names and sometimes mistaking them for others; speaking to her husband, who held one of her hands, and frequently addressing me as the "good doctor," or as Dr. —— or Dr. ——. After each pain I removed the handkerchief from her mouth, but returned it freshly moistened just as each one returned again, and kept it so until it was over. They seemed to be encouraged by the chloroform—not at all delayed or enfeebled. The head continued to descend slowly, the anterior lip of the os still feeling thick and rigid, the pains becoming more and more violent, so much so that I feared some danger to the womb. After one very violent pain she exclaimed, "was not that splendid?" After another, "well, I've been in Heaven once, that's certain, but I don't know as I shall get there again." At length the head was born; I surrendered the handkerchief to one of the ladies, to attend to the child, and while the shoulders were passing she partially awoke, the chloroform having evaporated from the handkerchief; but upon moistening it freshly she fell asleep again. The child's head was a good deal elongated by the pressure, and it was some moments before it breathed, but it soon revived and cried well. In a few moments the placenta was expelled—the soiled clothes removed—a bandage placed around her, and she now awoke. This was at a quarter before 3, P. M. Her pulse had all the time been about 90, soft and good; her face natural; the bandage around her arm became loose in the violent efforts she made to bear down, and she lost nearly half a pint more of blood before it was secured.

She was left strictly to herself, without conversation, and quite comfortable. Visiting her in the evening I found the family much alarmed; Mrs. S. had lost nearly a quart of blood, as the nurse informed me, from the womb, and had nearly fainted, but had revived before I came. I found the pulse 110 and feeble; the bandage loosely applied over the abdomen, and the womb considerably enlarged. I at once reapplied the bandage as tightly as possible, and placed between it and the womb a small book to make additional pressure. At the time she was much better; said she knew nothing of her labour after she first took the chloroform, until the shoulders were passing, when she thought it was an after-pain. She described her sensations as delightful, and knew nothing of what she had said. I had forgotten to mention that she asked for water three or four times while asleep and drank heartily; of this, too, she had no recollection. She, and all those who watched her so anxiously, were delighted at the result, which they dreaded the more, as their fears as to the safety of using chloroform in any case had just been raised to the highest degree by the sad result of its use in the case of Mrs. Simmonds, of Cincinnati. At present they are all resolved to use it themselves when their time comes. Mrs. S. is urgent that another acquaintance should use it, who is daily expecting to be confined; and she says, also, that as soon as she gets up she will take it to have her teeth removed to make way for an artificial set. I mention these incidents to show how much confidence she has in its use. Since the first day she and her child have progressed remarkably well. She feels better, she says,—less sore than after any of her previous labours. Heretofore she has not slept for one or two nights after her accouchements, and has been bled about the third day after, in all; but she slept well the night after her labour this time, and I found her the next morning with a pulse at 90 and good; child nursing; no headache or sick stomach, or nervous excitement, and with a great deal of gratitude to me for converting a bed of bitter anguish into an Elysium. About an ounce of chloroform was used in each of the preceding cases.

Case III.—I was called at 5, P. M., March 9th, to Catherine Hawkins, mother of the little boy upon whom I operated (see Case 1st, Surgical Cases) for necrosis of the fibula. She was in labour with

her seventh child. I found the head high up, the os well dilated; pains irregular and ineffective. A midwife had been with her since morning, and sent for me to see what was the matter. The pulse was natural; and, as all circumstances were favourable, I proceeded to rupture the membranes; and, pouring thirty drops of chloroform upon my handkerchief, I applied it gradually to her face. She fell under its influence in a few seconds, with no external symptom whatever. Soon a severe pain followed, and the head rapidly descended. Pain followed pain quickly, while she lay in a quiet sleep, the pulse perfectly unaffected; and, in fifteen minutes from its first exhibition, I was made aware of the birth of the child by its hearty cries. I afterwards reapplied the handkerchief once or twice, slightly moistened each time, to keep her asleep until after the placenta should pass. This followed in a few minutes. I then put the handkerchief in my pocket, and sat by her side with my fingers upon her pulse; a bandage was applied, the child washed and dressed, and still she slept on, as in the most pleasant sleep, and did not finally awake until near 6 o'clock. She then quietly remarked, "I've had a good nap, and feel better;" and dozed again. I did not disturb her, as the nurse told me she had not slept any the night before, and her pulse was, all the while, perfectly natural; in fact I could not perceive that the chloroform had the slightest effect upon the pulse in any way. She soon woke again with the same remark, when I directed the nurse to bring the child to her; she seemed much affected when I remarked, "It was one of the neighbour's, it could not be her's." "I'm sorry," was the reply; I thought it was mine; but I don't feel any pain; *it is mine*, but I didn't feel any pain: how strange!" I left her, with strict orders that she be not disturbed, but to let her sleep as long as she would. In this case not more than fifty drops of chloroform were used in all. Since this she has rapidly recovered; on the third day she sat up, and has been doing so since. In her previous confinements she has been kept in bed a week or more, and has always had more or less pain; this time she says she feels perfectly well, and not at all as if she had been confined.

In reviewing the preceding cases, I would remark, that the chloroform I first used gave rise to more unpleasant effects, and it

required more to soporize the patients, than that which I used in my latter cases. I am confident that very many of the unpleasant sequelæ of chloroform depend upon its impurities. I was struck by the fact that so much more was requisite to tranquillize my first patients than Dr. Simpson found sufficient. That which I am using now seems genuine. Too much attention to this point cannot be paid. All inhalers are worse than useless; I believe them dangerous. The handkerchief, as used by Prof. Simpson, is the best inhaler. Cæteris paribus, chloroform is safest in obstetrics; and I would use it in *all* cases where there was no positive counter-indication.

Case of Hydrophobia. By Thomas T. Smiley, M. D.

March 9th, 1848.—Was called to visit John Henderson, aged 14 years. *Symptoms:* Mind perfectly clear and collected, eyes preternaturally bright, and hearing morbidly acute; complained of heat and constriction about the throat, and pain in the lumbar region. Pulse 80; small, and exhibiting very slight indications of febrile action. Tongue slightly furred, white and soft. Spasms about the muscles of the neck supervened every two or three minutes, and continued a few seconds. After each spasm a mouthful of white froth was ejected, having a tenacious appearance. Could swallow, by a strong effort, a portion of fluid taken into the mouth—a part also being violently ejected by the effort of deglutition. The difficulty of swallowing had been first observed on the morning of the 8th, after a good night's rest, and without any previous indications of indisposition. Had been bitten on the chin and under lip nine weeks previously by a dog exhibiting symptoms of rabies caninæ.

Both the history of the case and the unequivocal character of the symptoms pointing clearly to the nature of the disease, the mode of treatment became at once a matter of serious consideration. Reflecting on the acknowledged inefficacy of venesection, heretofore chiefly relied on for controlling the most prominent symptoms of hydrophobia; and no symptoms being present which on general principles required it, I determined not to resort to

that method of treating the disease, but to make use of other remedies which had at least an equal chance of being useful, with less prospect of being injurious. For the purpose, therefore, of removing the muscular contractions and spasms of the glottis, I prescribed the following mixture: ℞. Tart. ant. et pot. gr. vi.; tinct. tolu, f℥i., aq. f℥vi., M. S. A table spoonful every five minutes till vomiting is produced; afterwards to be continued every hour. For the other most prominent symptom prescribed, the following as a liniment: ℞. Tinct. sapon. camph., tinct. canthar., liq. ammon. fff. P. E. M. S. To be well rubbed in along the whole course of the spine, by means of a soft piece of flannel, and to be repeated until the skin becomes abraded. No means being at hand for general bathing, ordered a hot mustard pediluvium.

March 10th, at 7, A. M., the patient had passed a dreadful night, requiring the strength of several persons to hold him during the spasms, which had recurred frequently. The tart. ant. had all been taken without producing vomiting. The patient had complained of a little nausea, but the distressing symptoms did not appear to have been moderated, or in any way controlled by the exhibition of this medicine. Discontinued the further use of the tart. ant., and prescribed the following mixture: ℞. Spts. æth., sulph. comp., f℥ij.; tinct. theb., f℥j.; aq. camph., aq. cinnam., aq. pur., *aa* f℥ij. M. S. A tablespoonful every hour. Frictions to the spine to be continued as before directed.

At 11 o'clock, A. M., again visited the patient. He had succeeded in swallowing the mixture, as ordered at the previous visit, without much difficulty, and had had no spasms since he commenced taking it. Appears greatly relieved, and laughs and talks fluently. Sitting up on a stool by the fire. On entering the room had some difficulty in recognising the patient, his appearance was so much improved.

As the spts. æth. sulph. comp. appeared to have been evidently beneficial, and considering that, from the constitution of chloroform, it must possess analogous, if not identical properties, with a more powerful action on the nervous system, directed the mixture to be continued as before, and ordered ten drops of chloroform on a piece of sponge of suitable size, to be placed in the mouth, and inhaled by deep inspirations; to be repeated at intervals,

more or less frequently, according to the exigency of the symptoms. Tongue moist, but heavily loaded, having a bilious appearance. Prescribed pulv. jal., gr. xxxvi.; hydrarg. chl. mit., gr. xij.; pulv. gambog., gr. vi.; mft. chart., No. 12, S. One every hour, till the bowels are freely disturbed.

March 11. *Morning.*—Had slept some during the previous night. Was sitting up on a chair before the fire, the floor around him covered with saliva: appears to be a genuine secretion from the salivary glands, being colourless and not frothy. Cathartic had operated slightly. Had been free from spasms during the night, while the medicines lasted; afterwards, more distressed. Articulation a little thick; mind collected. Conversed freely, and expressed himself greatly benefitted and relieved by the remedies prescribed. Asked to have another supply of the same, especially the "breathing mixture." Pulse 90; small, and less forcible than on the previous day. Directed the medicines to be continued as before.

March 12.—He had been nearly free from spasms during the previous day and night, and the difficulty of swallowing had greatly diminished. Had continued to take the mixture and inhale the chloroform, as directed. In the morning slept for an hour or two; was then suddenly roused by some person knocking violently at the door; complained of being disturbed, and expressed a desire to sleep again. Soon after told his mother to "bid the doctor good bye;" and expired quietly, without spasm or any violent effort.

REMARKS.

1. The spts. æth. sulph. comp.; tinct. theb. and chloroform having been prescribed with the view to produce a direct action on the symptoms accompanying the disease, the relative proportion and total amount of each exhibited during the treatment of the case, are worthy of being noted. Of the first and second, ʒvi. and ʒiij., respectively, were administered by the stomach; and of the chloroform, ʒij. by the lungs.

2. The first two, administered by the stomach, had prevented the recurrence of a paroxysm for three hours, before the chloroform was given by the lungs, and the combination of all three, when given as directed, prevented the recurrence of the most dis-

tressing symptoms during the subsequent progress of the case. Whether the first two would have continued to prevent the spasms, if given in the same or increased doses, would be difficult to determine.

3. It will be perceived that no attempt was made to give the chloroform to the extent of producing insensibility; nor was it considered desirable or proper to do so. The attempt to keep a a patient for hours or days constantly under the influence of that powerful remedy to such an extent, would itself in any case soon produce a fatal result; and the death of the patient might then be fairly referred to the remedy instead of to the disease. A constant but limited effect, just sufficient to prevent a recurrence of the spasms, was the object in view; and for this purpose small doses, frequently repeated, were directed.

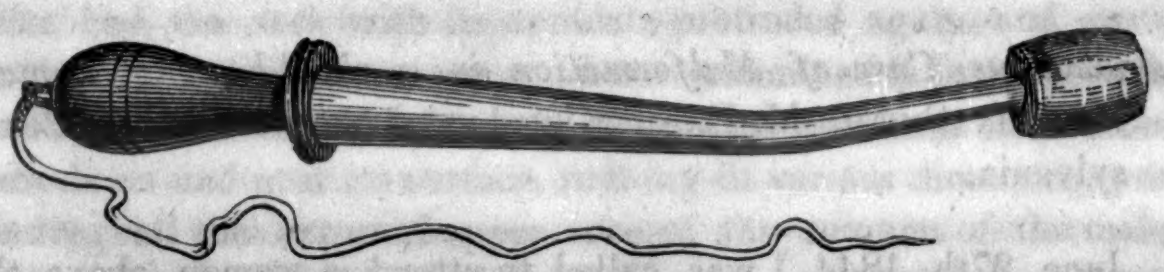
4. The general result of the treatment in this case proves that the remedies used exerted a decided influence on the progress of the disease, and modified the symptoms to such an extent as greatly to relieve the distress, though it failed to cure. Possibly one step has been made in a course of treatment which may hereafter render hydrophobia a curable disease.

5. In the present case, circumstances did not admit of such a close and careful supervision as would have been desirable. The constant presence of a well qualified medical attendant, who could increase or diminish doses, and regulate the time of giving or withholding remedies, according to the immediate exigencies of the case, together with the use of all the collateral means necessary to give the fullest efficacy to the leading remedies, might have a great influence in producing a more favourable result.

6. It may be asked why the patient did not recover, if the spasms and other leading symptoms were under the control of remedies. It should be recollected that the disease is one thing—the symptoms are another. The spasm of the glottis and other phenomena attending the disease, are only symptoms, and not the disease itself. These symptoms are the manifestations of a morbid condition somewhere else—probably in one of the nervous centres—and may be modified or controlled without curing the morbid condition on which they depend.

Galvanism and Electro-Magnetism, in the Treatment of Uterine Hæmorrhage, Prolapsus Uteri, &c. By TRACY E. WALLER, M. D.

In consideration of the great power of galvanism as a curative agent, and the fact that its use is yet very limited, I am induced to offer a few remarks on its application in the treatment of certain uterine affections. I believe Dr. Radford, of Manchester, England, was the first to apply it in uterine hæmorrhage. He used it in inertia of the womb, during labour and after delivery, with the most gratifying results. Thomas Dorrington, Esq., Surgeon to the Manchester and Salford Lying-in Hospital, applied it in a case of placenta prævia, and in one or two other cases of hæmorrhage in the latter months of pregnancy. Henry Wilson, Esq., Surgeon, Runcorn, and Mr. Clarke, of Dublin, have likewise used it successfully in similar cases, and perhaps others on that side of the Atlantic. The instrument used for a conductor by Mr. Wilson, was made of copper wire wound with thread and covered with sealing wax, with a small ball of sponge fastened to the end to be applied to the womb. The one used by Dr. Radford, was of copper wire coated with sealing wax varnish, with a silver ball attached to one end by a screw, and connected with the machine by a wire and spiral spring concealed in the handle. Mr. J. P. Stratton of this city has recently contrived an instrument which appears to me to be better adapted and more conveniently applied than either of these.



This is made of seasoned wood, of proper size and length, and bent to suit the vaginal curve in the direction of the womb: through this a copper wire passes, with a metallic ball one inch in its longest and three-fourths of an inch in its shortest diameter, fastened by a screw to the end and coated

with silver. The wire from the machine is attached at the handle end of the instrument by means of a small hole through the conducting wire or rod. The handle is turned, and of convenient size. The wood from the ball to the handle is well coated with sealing wax varnish, and it is thus rendered a very neat and durable instrument. When applied to the womb, I have observed that contraction immediately follows. The manner of making the application is as follows: A piece of flannel, wet in alcohol or spirits, should be laid over the abdomen of the patient; on this the positive pole is to be held by an assistant, while the physician applies the instrument attached to the negative pole introduced into the vagina, and resting on the os uteri. Dr. Golding Bird says, that "galvanism is probably the very best emmenagogue we have." It may be employed, no doubt, with success and perfect safety in all passive forms of uterine hæmorrhage; and in that common and most distressing complaint, prolapsus uteri, I have reason to believe it will be a highly useful remedy. I have never seen any account of its employment in this disease, but having used it myself in a few cases, I can recommend it as a most valuable agent. It should be remembered that the negative pole of the battery is attached to the uterine conductor, and the positive applied to the abdomen just above the pubis. I have used galvanism in dysmenorrhœa also with the most gratifying results: and in a variety of other complaints I have found it to be a remedy of great value, an account of which I hope ere long to present to the profession.

Anomalous Case of Malformation in a child-bearing woman. By John Smith, M. D., of Kingston, Luzerne county, Pennsylvania.

June 27th, 1844, I was called to attend a woman above the medium size, in her first labour; I found her pains regular, the second stage fully established. On attempting to pass my finger to ascertain the presenting part, I encountered, external to the labia, a membrane containing a fluid, which I supposed at the time to be the bag of waters of the ovum; as it did not expand

at the next expulsive effort, and presenting a feeling different from the ordinary membrane, I passed my finger by it into the vagina, found the vertex presenting in the most favourable position, with the os uteri dilated about two inches in diameter, and the waters of the ovum already discharged. In the absence of pain, I passed my finger round the os uteri, and found that the protruding part had no connection with it, but was connected with or passed through the vagina, a little to the left of the middle and near the superior part of the pubis. As my patient had several times complained of what I understood to be simply a bearing down, usual with many females in a state of gestation, I was a little surprised to find a malformation of the kind. To my enquiries she answered that previous to her marriage, there was never any thing made its appearance external to the labia, but since she became enciente, and more particularly for the last few months, whenever in an erect posture, either sitting or standing, (to use her own expression) it was continually in the world, and that she had frequently an uneasy sensation in the region of the left ovarium. I informed my patient that there was something not natural to the female, but that it would not interfere with her labour or impede the passage of the child. She however expressed some uneasiness, and I had my friend Dr. T. W. Minor called in, who, after making a careful examination, confirmed the statements I had made, and retired. In a little more than an hour from my first being called, my patient was comfortably in bed. After the passing of the placenta, I returned the protruding sack within the vagina, and her recovery was as favourable as could be expected from any ordinary labour; but immediately on her rising from bed, the sack with its contents protruded again, and was a source of much inconvenience. I now examined it by inspection, and found it to consist of a membrne having numerous small blood vessels on and near its surface, running in various directions, presenting all the external appearance of the scrotum of the male, and on making slight traction it always occasioned pain and uneasiness in the vicinity of the left ovarium. After introducing a gum catheter, to establish the fact clearly that it was wholly unconnected with the urinary bladder, I punctured it with a crown lancet, and drew off about two ounces of limpid serum. No benefit was derived from this simple operation. It did not retract

within the vagina, while the irritation produced in walking prevented the puncture from healing; it became corrugated, thickened, and pus formed. I now, with a pair of scissors, severed the protruding portion of the sack; the remainder retired to the superior part of the pubis, where I could distinctly feel the cut edges. After the operation no treatment was required, nor was my patient confined to her bed at all. A slight soreness above the pubes on the left side was felt for a few days.

Feb. 11th, 1846, I attended the same female in her second labour. On making my first examination, I could find no mark of there ever having been any malformation; her labour was favourable and she is now in good health.

Was this malformation a sack connected with the left ovarium?

Account of a case of prolapse of the gravid Uterus during labour.

By E. F. Watson, M. D. *In a letter to the Editor.*

Dear Sir:—I have been induced to send you the following history of a case that occurred in my practice, and if you think it worthy you may give it an insertion in your valuable journal. Perhaps it may be interesting to some of your numerous readers who may happen to meet with one of a similar character, it being the first of the kind I have ever met with in a tolerably extensive practice during the last thirteen years.

On Thursday, the 13th of January last, about 8 o'clock in the morning, I was called in haste to visit Mrs. C——, aged about 22 years, in labour with her first child. On arriving at the house I found her in charge of two midwives, who had been with her the greater part of the preceding night. The patient I found lying on the floor, with a few bedclothes under and over her. I was requested to examine the case and do something immediately for the relief of the patient, as the midwives and friends were very much alarmed at her condition. Upon examination I found the uterus entirely without the vulva, containing a fœtus at full term of utero-gestation; when placing my hand on the uterus, I found it dry and ecchymosed in several places on the body and fundus, with the os uteri dilated to about the size of a twenty-five cent piece, and very thick, firm and unyielding, with the scalp slightly projecting

through the orifice. Upon enquiry, I learned that early in the night the patient had been taken in labour, and the midwife first called to the case finding something unusual exhibiting itself, desired a physician to be sent for; the friends objecting, they sent for the second midwife, who thought herself able when she arrived to surmount every difficulty, and bring the labour to a speedy and successful termination. But after exhausting all her skill, and making the case no doubt a great deal worse by her efforts for delivery, she then advised the friends to send for a physician with all possible speed. I had the patient taken up and placed in bed as soon as possible, and applied linen clothes, rung out of warm water, to the uterus, and sent for Dr. J. S. Bracken to come to my assistance and bring the necessary instruments for delivery, having none with me but a common case of midwifery instruments and a small scalpel or two. After several applications of the linen (for I had them renewed every few minutes) I found the uterus began to act, and with such force as to give strong fears that a laceration of the organ might take place. The pains, though frequent and very strong, had no effect in enlarging the os uteri. Deeming the case too urgent to wait any longer for the arrival of Dr. Bracken, I determined to divide the neck of the uterus longitudinally, and for that purpose introduced my finger in the absence of pain, and with a common scalpel, my finger serving as a director and also protecting the scalp of the child, divided the neck to the extent of three-quarters of an inch or more. Another pain soon came on, which caused but little dilatation. Owing to the cartilaginous condition of the cervix, I thought it best to make two other incisions, about equidistant from the first, and to about the same extent; after which, the pains having returned, the fœtus was expelled in a state of asphyxia, but by repeated inflation of the lungs and using the common restoratives, it was soon discovered to breathe, and in a short time cried out lustily, to the gratification of mother and friends. The placenta was soon delivered without difficulty or hemorrhage, the uterus contracting firmly, as though it had been in its proper position. By this time Dr. Bracken having arrived, and having examined the case—the parts being cleansed—I then returned the uterus to its proper position, applied a large piece of sponge, well oiled, to the vagina, and secured the same by the application of a T bandage.

The patient appeared quite comfortable after delivery, with a pulse about 75, and had borne her sufferings with uncommon fortitude, having been in the condition described above about twelve hours. We left the patient about 12 o'clock, and ordered half an ounce of ol. ricini to be taken at 4 o'clock in the evening, and elm mucilage to be thrown up the vagina every six or eight hours, with a promise that I would see her the next day. Diet to be rice water or weak panada.

Friday, 14*th*. Visited the patient about 10 o'clock; found her quite comfortable, except slight tenderness of abdomen; pulse about 100; bowels had been twice moved during the night; after-pains but slight. Ordered oil to be repeated in the evening; fomentations to the abdomen, and to continue the injections per vaginam; left a weak solution of creosote to be used as a lotion.

Saturday, 15*th*. Dr. Bracken kindly visited the patient to-day, and found her greatly improved; tenderness of abdomen much relieved. Treatment to be the same, with oil to be taken next day. Diet the same.

Monday, 17*th*. Visited the patient and found her gradually improving; tenderness of abdomen entirely subsided; a free secretion of milk has taken place since my last visit. On removing the bandage and sponge, I discovered the uterus had come down so that its neck could be seen. The incisions seemed to be perfectly healed and the appearance of the parts quite healthy. Patient complains of scarcely any pain or tenderness about the vagina or os uteri in replacing it to its proper position. Ordered her diet to be a little more nourishing, and to continue the injections per vaginam twice a day, and creosote wash as heretofore.

Wednesday, 19*th*. Patient improving, and thinks herself able to sit up if she was permitted to do so. Bowels ordered to be kept open with oil, and to continue diet and treatment as directed at last visit, with strict direction to keep herself in the horizontal posture until next visit.

Monday, 24*th*. Visited patient and found her, as she expressed herself, entirely well, if she could only get permission to sit up, which I granted her, and directed her diet to be more nourishing, and to continue wearing the bandage and sponge, which would serve to support the parts in their relaxed condition; since which time I have had no further trouble with the patient, but she has

continued to improve, and was soon able to attend to her ordinary occupation, and has suffered during her confinement but little more than if her case had been one of an ordinary character. The patient living at the distance of near ten miles from me, I have not seen her since my visit on the 24th, but have frequently heard from her, and have been gratified to hear that both mother and child are doing well.

Prof. Meigs, in speaking of deformity of the pelvis, says: "When labour comes on in a woman with a very ample pelvis, her throes have the effect of urging the whole body of the uterus, with all its contents, down towards the perineal outlet; and hence, before the mouth of the womb is fully dilated, the head of the child, still partially enveloped in the undilated cervix, may be pushed through the vulva."* In making a partial examination of the pelvis in the above case, I found it not larger than ordinary; but the cervix being completely cartilaginous, every pain did no more than force the uterus with its contents through the vulva; and it is entirely probable that the efforts made at delivery before I saw the patient, assisted materially in making the prolapsus what I found it on my arrival.

North Carolina, Orange Co., March 3d, 1848.

To the Editor of the Medical Examiner.

DEAR SIR:—At a Stated Meeting of the Norfolk Medical Society, held on the 4th of March, 1848, Thomas F. Andrews, M. D., and Richard W. Silvester, M. D., were elected Delegates to the National Medical Association to assemble in Baltimore in May. William J. Moore, M. D., and George L. Upshur, M. D., were appointed alternates.

Yours, &c.,

GEO. L. UPSHUR, M. D., Secretary.

Norfolk, (*Va.*,) March 13th, 1848.

* Practice of Midwifery, p. 29, Second Edition.

BIBLIOGRAPHICAL NOTICES.

Principles of Physics and Meteorology. By J. Müller, Professor of Physics at the University of Freiburg. *First American Edition. Revised and Illustrated with* 538 *Engravings on wood and two Coloured Plates.* Philadelphia. Lea & Blanchard: 1848.

At the present day it can hardly be requisite to speak of the absolute necessity for a well-educated physician to be conversant with Natural Philosophy. At every turn he is met with the need of a knowledge of its principles; and, in proportion as he is well instructed in these, *cæteris paribus*, will he be prepared to practice successfully and with advantage to himself. That this is so, we have only to reflect, for a moment, upon the human body. What is it but a piece of mechanism of the most beautiful description?

In the osseous and muscular systems the principles of the lever and of active forces are exemplified; those of hydraulics in the vascular, and of pneumatics in the respiratory system.

And then, too, the Eye. What an admirable structure! and yet in all its delicate arrangement obedient to physical laws—itself the most perfect achromatic instrument. But a copy of this is that wonderful mechanical instrument, the telescope, by means of which man looks upward amid the starry host—brings within his vision the remotest planet, and gives it a local habitation and a name.

No surgeon, thoroughly imbued with the laws of Physics, can ever be at a loss in the application of his various apparatus, to meet the continually changing requisitions of his art; without a practical knowledge of the same, he must ever be a novice and a bungler.

True it is, as Dr. Arnott observes, that there is scarcely a part of the animal body, or an action which it performs, or an accident that can befal it, or a piece of professional assistance which can be given it, that does not furnish illustration of some truth of natural philosophy.

The present work contains sections on the following subjects:

General Properties of Bodies—Equilibrium of Forces—Motion

and accelerating Forces—Acoustics—Light—Magnetism—Electricity—Galvanism—Electro-Magnetism—Meteorology.

Several articles have been added to the London edition by the American publishers; *e.g.*, those on the electro-magnetic telegraph, electrotype, the steam engine, &c. &c.

Light. Two theories have divided the opinions of men of science concerning the phenomena of light, to wit: that of emission, and that of undulation. Both regard it as imponderable. But the theory of undulation regards light as propagated by the vibrations of a subtile matter termed ether.

"This Ether," says Müller, "fills the whole universe, since light penetrates the spaces of the heavens. This imponderable substance is not only distributed through the otherwise vacant space, separating the stars, but it penetrates all bodies, filling up the interstices occurring between the ponderable atoms. If the ether were in a state of rest throughout the whole universe, there would everywhere be darkness; but put into vibration, as it were, at one spot, the waves of light are propagated in all directions, as the vibrations of a cord are transmitted through a calm atmosphere."

This, no doubt, is now the prevailing opinion of philosophers. The great German poet and savant, Goethe, gave it the aid of his powerful mind, and aided in establishing a more reasonable theory than that of Newton.

Diurnal Variations of Temperature. To observe from hour to hour the variations of the thermometer is laborious, and a greater tax upon time than can well be afforded. Hence observers seek to obtain the *mean temperature* of the day.

This, according to Müller, is best done by observing the thermometer at several *similar* hours, "for instance, at 4 and 10, A.M., and at 4 and 10, P. M.; this method is, as Brewster has shown, correct to one-tenth of a degree: we likewise obtain a very useful result by making our observations at 7, A. M., at noon, and at 10, P. M., and then taking the mean of these three periods."

The distribution of heat over the surface of the earth was first distinctly brought to view by the celebrated German traveller and naturalist, Humboldt. He established for this purpose, what he called *isothermal lines*. These imaginary lines were drawn through all those places in the same hemisphere which have equal mean annual temperatures.

Such a line, however, passes through places which have by no means the same degree of latitude.

The difference of temperature between the two continents—Europe and America—on the same parallels of latitude, has always been a perplexing subject.

Though the extract is somewhat long, we venture to give it, as it embraces Müller's views on this point and tends to clear up the difficulty to some extent.

"In the northern temperate zone, south-west and north-east winds prevail. The former come from the equatorial districts, and partially bear the heat of the tropics towards colder regions: this warming influence of the south-west winds is, however, most marked in those districts which are the most exposed to south-western currents of air, and thus we see why it is that the western shores of great continents become warmer than the east coasts, and that the isothermal lines in Europe, which is actually only a peninsular prolongation of the Asiatic continent, and on the western shores of North America, ascend further to the north than in the interior of Asia and on the eastern shores of North America.

"A second cause to which Europe owes its relatively warm climate, is this: that in the equatorial region it is bounded towards the south, not by sea, but by an extensive continent, Africa, whose vast extent of desert and sand render it extremely hot when exposed to the vertical solar rays. A warm current of air rises continually from the glowing hot sandy waste, to descend again in Europe.

"Finally the current known by the name of the Gulf Stream contributes considerably to make the European climate milder. The origin of this current is to be sought for in the Gulf of Mexico, where the water is at a temperature of 87° F.

"Issuing from the gulf, between Cuba and Florida, the stream at first skirts the American shores, and then, as it comes into higher latitudes, turns with decreasing temperature eastward towards Europe. Although the Gulf Stream does not actually reach the shores of Europe, it nevertheless distributes its heated waters, under the influence of the prevailing south-west winds to the European waters, as is proved by our finding on the western shores of Ireland and on the coast of Norway the fruits of trees that grow in the hot zone of America; the west and south-west winds remain, therefore, long in contact with a sea water, whose temperature between 45 and 50 degrees of latitude, does not, even in January, sink below from 51 to 48° F. Northern Europe is thus separated by the influence of the Gulf Stream from the circle of polar ice by means of a sea free from ice; even at the coldest season of the year the limits of polar ice do not reach the European shores."

We are no very great sticklers for names; but we cannot but view it as a defect of the work, that in speaking of Electricity, the name of Franklin is not so much as mentioned as the discoverer of the positive and negative theory.

Dufay's is, perhaps, more generally, at the present day, adopted; but the hypothesis of Franklin is more simple, and explains equally satisfactorily the phenomena of electrical action.

The number and beauty of the wood-cuts struck us at once. They are unsurpassed in distinctness of outline and clearness of delineation.

We observe at page 28 the following: "The wood-cuts of the original German edition of this work, from which those in our present translation are copied, were impressed by copper type of this description," (i. e., by the galvano-plastic process.)

This volume, we learn, is the first of a series of works on different branches of science, to be published in London by Baillière, and republished in this country by the enterprising American house.

We sincerely wish success to the undertaking, believing, when finished, that the whole series will form a valuable scientific library.

The Human Brain; its structure, physiology and diseases, with a description of the typical forms of Brain in the Animal Kingdom. By Samuel Solly, F. R. S., Senior Assistant Surgeon to St. Thomas's Hospital, and Lecturer on Clinical Surgery, &c., &c. *From the Second London Edition—with one hundred and eighteen wood engravings.* 8vo. pp. 496. Philadelphia: 1848.

On Disorders of the Cerebral Circulation; and on the connection between affections of the Brain and Diseases of the Heart. By George Burrows, M. D., Late Fellow of Caius College, Cambridge; Fellow of the Royal College of Physicians, London; Physician and Lecturer on the Principles and Practice of Medicine at St. Bartholomews Hospital. *With coloured plates.* 8vo. pp. 216. Philadelphia: 1848.

The Cyclopædia of Anatomy and Physiology. Edited by Robert B. Todd, M. D., F. R. S., &c., &c. *Part XXIX; containing Nervous system, physiology of the (concluded;) Pleura, and Polygastria.* 8vo. London. November, 1847.

The anatomy of the nervous system, and, still more, its physiology, have received marked attention within the last few years; and as respects the former, no one has added more to our exact information than Mr. Solly. We cannot say so much of his contributions to the physiology and pathology of the encephalon.

Twelve years ago, he published the first edition of his "*Human Brain*," which, at that time, received merited commendations from the periodical press: now, he issues a second edition, more largely illustrated, and the American publishers have done wisely—we are sure in a scientific—and, we doubt not, in a commercial—point of view, in reprinting it, with all its riches, as it appeared on the the other side of the Atlantic.

No part of the human organism has been a subject of greater interest to the mere descriptive anatomist than the encephalon. As the organ of the wonderful functions of sensation, volition, and mental and moral manifestations, it could not fail to attract absorbing attention, and hence its various heterogeneous parts have been minutely described. Most unmeaning and absurd names were given to parts in the infancy, and even in the more advanced

stages, of anatomical investigation, which have been worse than useless jargon; and have fettered the progress of the young enquirer, by loading his memory with a ridiculous nomenclature, from which every effort is now being made to free the science, and by none more than by Mr. Solly himself.

Every anatomist must have been impressed with the absurdity of calling the two forms of neurine—the *gray* or *vesicular*, and the *white* or *tubular*—the "cortical" and "medullary;" and yet these were the only names employed when *we* were taught, if we except that the gray was, at times, called "cineritious." "Cortical" was derived from *cortex* "bark," because the gray matter was seated "cortically" in the hemispheres of the brain and cerebellum; whilst the "medullary" received its appellation from being assimilated to marrow. Yet at that time it was well known that all gray matter is not placed externally; that there are masses of it seated within the hemispheres—as in the corpora striata and thalami nervorum opticorum—to use the older names—the "*anterior cerebral ganglion*" and the "*posterior cerebral ganglion*" of Mr. Solly; and that a series of ganglia extends through the very middle instead of the periphery of the medulla oblongata and medulla spinalis, the anatomical centre of the "reflex" or "excito-motory system" of Dr. Marshall Hall.

Again, the medullary portion, although assimilated by name to marrow, resembles it in no respect histologically, whilst its chemical resemblance consists in its being a phosphuretted fat, united, however, with albumen; and hence—for every reason—the vast improvement in designating the *cortical* neurine as "*vesicular*," and the *medullary* as "*tubular*;"—the very difference in structure indicating the possession of as different functional endowments;—the former destined—as we have every reason to believe—to *produce*, and the latter by its tubes to *conduct* nervous influence from one part of the economy to another; so that, by sufficient examination by the naked, and, *à fortiori*, by the assisted eye, there can be no difficulty in deciding as to the portions of the nervous system that possess the one or the other of these properties or endowments. The centre of the spinal marrow, we have seen, consists of vesicular neurine; its circumference of a sheath of tubular neurine, which is known to be continuous with the tubular matter of the brain, and in this manner prolongations of the tubular matter

of the spinal marrow pass through the vesicular ganglia constituting the corpora striata and the thalami nervorum opticorum, and ultimately terminate in the vesicular neurine forming the periphery of the brain. Anatomy has shown, that the tubular neurine of the anterior portion or pyramids of the medulla spinalis, ascends through the crura cerebri and the corpora striata, whilst the posterior tubules ascend through the corpora olivaria and thalami nervorum opticorum; and as the roots of the spinal nerves, which originate from the anterior part of the spinal marrow, are known to be *motory*, and those from the posterior part *sensory*, we may thus infer, that the "anterior cerebral ganglion" (*corpus striatum*) may be connected with motion; and the "posterior" (*thalamus nervi optici*) with sensation—and such is probably the case: hence, in paralysis, the seat of the effusion of the blood—of the cerebral hemorrhage—is more frequently in the corpus striatum and its vicinity than in any other part of the brain;—the side opposite the lesion losing its motive power—as is well known—owing to the decussation of the spinal tubules at the anterior part of the medulla oblongata, and probably elsewhere, for there are many commissural arrangements.

We have alluded to ridiculous and unmeaning nomenclature; and there is not a more striking example than in the so-called "*corpora* or *tubercula quadrigemina*;" the two upper bodies of which, from their fancied resemblance to the breech, have been called *glutia* and *nates*, whilst the two lower were termed *testes*. *Now*, when we know that they are the vesicular origin of the optic nerves, what an improvement in terming them the "optic lobes or tubercles," as we term the olfactory bulbs—the olfactory lobes;—the very name conveying to the mind of the student a knowledge of their uses, whilst the ancient appellation could suggest little more than indecent associations!

As connected with this subject, we may quote with advantage the following judicious observations by Mr. Solly in his preface:—

"According to the plan generally pursued in describing the brain, in systematic works of anatomy, the information conveyed amounts to little more than a vain catalogue of names applied to parts, without reference to their structure, their functions, or even their analogies in the nervous system of the lower orders of animals. Such a

barren prospect as a list of names holds out but little to attract the most zealous among students, while the dryness of unconnected detail, and the obstacles to clear conceptions engendered by the absence of everything like arrangement, almost certainly deter him from attempting to learn more than is required to prepare him for examination for the diploma. It is unfortunate, indeed, that candidates for this honourable certificate are still very generally required to describe the appearances presented by the brain dissected, or rather destroyed, by the old method of slicing; a method most unphilosophical in its conception, and totally inadequate to impart any real information in regard to the structure of the organ. And I do not hesitate to affirm that this mode of examination has contributed essentially to retard the diffusion of sound knowledge in regard to the anatomy and physiology of the most important system in the body.

"It is sad to reflect that medical students, on whom the duty devolves of tracing the relations which exist between the structure of organs and their functional manifestations, with a view to the successful treatment of disease, should thus neglect the most important part of the whole organism. No labour should be thought too great which can assist us in understanding the nature of that instrument which the mind employs in its communications with this world. Every day shows us that consciousness and volition may be disturbed by the slightest accident to the head, and that disease seldom invades the brain without dethroning the mental powers.

"When I published the first edition of this work, I was not aware that so high an authority as Dr. Craigie had exposed, in the following forcible language, the evils I then, and have since, deplored. I gladly avail myself of his authority to assist in subduing this evil:—

"'To the mind, however, which is unfettered by prejudices in favour of ancient opinions, it appears singular that the enlightened physiologists of the eighteenth century should talk of the medullary and cortical matter of an organ in which nothing like marrow or bark can be seen; and it is more extraordinary still, that the accurate distinctions which anatomy has introduced since the commencement of the nineteenth century, have not demonstrated the evil of retaining terms which are improper, as mere nominal distinctions; but which are doubly erroneous as the relics of an unfounded and exploded theory. Is the error of likening the brain to marrow, obviated by shrouding it under the learned denomination of medulla and medullary? Or is the absurdity of supposing the gray matter of the convoluted surface, a bark, or envelope to the white pith, diminished in the slightest degree by calling that gray matter cortical? The common sense of the present day will not hesitate to answer these questions in the negative.

"'Should it be said by the ambiguists, that now, when the absurdity of these names is known, it can do no harm to retain them as mere names, we answer, it may do harm; but as it can communicate no information and explain no difficulties, it is, at least, a superfluous labour to augment the confusion of a department of anatomy not very easy, by useless and antiquated names, which live only to proclaim their absurdity, and the impropriety of finding them there. Knowledge, in the present day, to be worth the labour of acquisition, ought to be accurate; the books which are to be the means of conveying this knowledge ought to contain no superfluous or erroneous information.'

"Foville, who has devoted so much attention to the structure of the brain, though he has paid too little attention to the labour of others, thus expresses himself in regard to the difficulties which attend its study:—'If we confine ourselves to the examination of its exterior, we know no more of its organization than we could know of the human body if we merely looked at the surface of the carcass: even sections of the brain teach little more than sections of the body would.'

"Foville gives to Gall the credit of teaching us how to separate the fibres of the brain without *cutting* them." p. vii.

Mr. Solly's work commences with the structural anatomy of the brain;—and this is the best portion of it. He gives its chemical constitution, the varieties of form presented by the neurine—vesicular and tubular—of animal and organic life; enters fully and clearly into the comparative anatomy, which is well elucidated by appropriate wood-cuts; ascends through the various steps of the animated ladder up to man; depicts well the protective apparatus of the human brain—*tutamina cerebri*, as they have usually been designated; gives the various weights of the brain as recorded by different observers; describes the "configuration of the encephalon;" and devotes a special "part" to the "dissection of the human brain and spinal cord"—an excellent description:—from this we extract the "Recapitulation," in which the author has indulged in further and appropriate comments on the nomenclature generally adopted in works of anatomy.

"*Recapitulation.*—The description of the course and termination of the various tracts of medullary neurine which, with their ganglia, constitute the brain or encephalon, being now concluded, it will, I think, be useful to take a general review of the subject, by a recapitulation of what has been stated in detail separately; and we

will reverse the order of our observations, proceeding from above downwards, instead of from below upwards.

"In the first place, we have an extensive surface of cineritious neurine, the *hemispherical ganglion*, (speaking merely of one side of the brain,) which, in the higher orders of animals, is convoluted or folded in a peculiar manner.

"In apposition to the whole of the vesicular neurine of this ganglion, there are tubular fibres which radiate through it, and are encrusted by its nucleated cells.

"These fibres are disposed of in four different ways; 1st, some of them, commencing from the convolutions of the anterior, middle, and posterior lobes, pass through the corpora striata, and, forming the inferior layer of the crus cerebri, pass through the pons Varolii, so as to form the anterior columns of the cord, as previously described—the *motor tract:* 2d, others commencing in the nerves of sensation, and after passing through the pons Varolii, and emerging from the substance of the thalamus, terminate in the same neurine that gave origin to the last, this is the *sensory tract:* 3d, others, passing from one side of the brain to the other, and in apposition to the internal surface of all the convolutions, are those fibres which, collected into a mass, form between the hemispheres that wide bridge, if I may so call it, the *great transverse commissure*, or *corpus callosum:* 4thly and lastly, in contact with all the convolutions are the fibres of the superior and inferior longitudinal commissures, which, connecting together those convolutions which are situated on the same side of the mesial line, or different portions of the same hemispherical ganglion, so far differ from the transverse commissure, which connects those situated on opposite sides, or the two distinct but corresponding ganglia.

"The first and second set of fibres, which radiate from the external surface of the two large ganglia of the anterior and posterior columns, as from a common centre, forming, however, in their radiation, only half a circle, were designated by Gall and Spurzheim the *diverging fibres*. The third set of fibres, which converge towards the centre of the brain, the transverse commissural, were distinguished as the *converging fibres* by the same authors.

"The above descriptions demonstrate that the encephalon or brain in the human subject is not a large solid mass of matter, in the interior of which are cavities, scooped, as it were, out of its substance, to be appropriately denominated ventricles, but that it really consists of ganglia or collections of cineritious neurine, placed on each side of the mesial line. Some of them being the appropriate ganglia of the nerves of sensation; as, for instance, the olfactory ganglia, the optic ganglia or tubercula quadrigemina, the auditory ganglia or posterior pyramidal bodies, the pneumogastric ganglia or restiform ganglia, the olivary bodies or lingual ganglia;

the others being the motory and sensory ganglia, as the corpora striata and thalami nervorum opticorum. The hemispherical ganglia, again, that they might present the greatest possible extent of surface, are folded up into innumerable plaits, and thus cover or surround every other ganglion within the cranium, so that on first removing the skull-cap, nothing can be seen but the convoluted surface of these extensive ganglia.

"And here let me insist upon this important principle in the study of the brain, which is also one of the first ideas that the student should acquire regarding its composition, namely, that it consists of corresponding or symmetrical parts on each side of the mesial plane, and that instead of regarding the fissures of separation between its different portions as forming ventricles or cavities, he must direct his attention to the ganglia which bound the fissure, and the structures called commissures, which, connecting them together, cross the fissure, and necessarily alter its character in different points, masking it, it is true, but not at any place changing the fissure into a true bag or circumscribed cavity. The third, the iter a tertio ad quartum ventriculum, the fourth and fifth ventricles, we have already seen, are in truth no more than the successive dilatations from below upwards of the posterior fissure of the cord; difficult enough to be understood when these are viewed in different situations and unconnected one with the other, as in the ordinary mode of dissecting the brain, but which seem necessary and obvious where its parts are traced in connection with one another.

"In conclusion, let me express the hope that these views or analyses, if I may be allowed so to call them, of the component parts of the encephalon, will really simplify the whole of its anatomy, and materially assist the student in acquiring a knowledge of its true character. I wish that custom did not require the student to burden his memory with fanciful and unmeaning names, and that, instead of learning a long catalogue of the contents of the lateral ventricles, as they are erroneously designated, and puzzling himself with the absurd titles of hippocampus major and minor, pes hippocampi, tænia hippocampi, cornu Ammonis, &c., he should be required simply to observe how the spinal columns appear to terminate superiorly in two large tubercles, the *corpora striata* and *thalami*, from the sides and under parts of which the hemispheres spring out, being afterwards reflected so as completely to envelop this bulbous extremity of the spinal cord. In the same way the third ventricle should be described as a fissure separating the two halves of the brain, his particular attention being directed to the commissures which pass across it to connect the different cerebral ganglia with one another. The description of the relative position of these ganglia, the commissures connecting them, and their relation to the ganglia and columns of the spinal cord, comprehend all

the information which is either interesting or useful to the student." p. 228.

The seventh "part" or section is on the cerebral nerves; the eighth on the vessels employed in the cerebral circulation; the ninth on the development of the brain; and the tenth on the physiology of the cerebro-spinal axis. This part is exceedingly brief, and, therefore, by no means as interesting as it might have been made. It may be well, that we should epitomize what we regard as the probable functions of this the most elevated portion of the organism.

First. We have already observed that vesicular neurine is the source of nervous power.

Secondly. That tubular neurine is everywhere the conductor of nervous power.

Thirdly. Whenever nervous power has to be produced in greater quantity, the vesicular matter presents itself in masses or ganglia.

Fourthly. The three great divisions of the nervous system are: 1, The cerebro-spinal; 2, The true spinal; and 3, The sympathetic.

a. As regards the *cerebro-spinal* division, in which we include the vesicular and tubular matter of the brain and tuber annulare, the vesicular matter of the medulla oblongata and spinal marrow, and in which are the organs of sensation, volition, and mental and moral manifestation.

In this division, we meet with numerous parts. There is great reason to believe, that the *vesicular matter of the cerebrum* occupying the convolutions and anfractuosities is mainly concerned in the production of the mental and moral manifestations,—that the *corpora striata* and *thalami nervorum opticorum*—in other words, the anterior and posterior cerebral ganglia of Mr. Solly—are sensori-motor centres, as before remarked. The *locus niger*, in the crus cerebri, is considered by our author to be the "serial hemologue and analogue" of the anterior peaks of gray matter of the spinal cord, and is, he supposes, the seat of the excito-motor power of the third pair of nerves. The functions of the *optic lobes or tubercles* we have referred to already; and there is great ground for according with the facts and arguments adduced by Dr. Carpenter, that a series of *sensory ganglia* exists at the base of the

brain, which may be regarded as the special encephalic organs of the senses;—and that these may be present in animals not provided with cerebral hemispheres, and whose actions are consequently entirely sensori-volitional; but whether they are the nervous seat of the emotional and of all the instinctive acts admits of great question, as we may take occasion to show hereafter, when more time and space are permitted us.

We have remarked, that the nervous seat of intellect is probably the vesicular matter of the cerebral hemispheres; yet we are not prepared to subscribe to the doctrine, that separate and distinct organs, the seat of as many special and distinct primary faculties, exist there—as maintained by the phrenologists; and we may say further, that year after year's observation satifies us more and more of the difficulties in the way of such a conclusion; and that the most cogent facts and arguments may be brought forward against the location even of the instinct of generation and of philoprogenitiveness—without the existence of which many animal species would necessarily cease—and the assigned phrenological seats of which have generally been regarded as most strongly established.

The *cerebellum* appears to be connected with the regulation and co-ordination of the movements; and, most assuredly, as we descend the scale of animals, the prominences of the skull caused by the posterior portions of the hemispheres, in which the organ of philoprogenitiveness is placed—soon disappear, and are not indicated externally in animals, which, notwithstanding, are marked for the intensity of their maternal instinct.

b. The true *spinal* nervous system—the second division—is seated in the vesicular matter within the medulla spinalis, which may be regarded as a series of ganglionic centres, "structurally homologous and functionally analogous to the jointed ganglionic cord of the articulata, and although we are unable to point out any corresponding lines of demarkation between them, they are as functionally distinct as the auditory, optic, and olfactory ganglion of the brain." In the vesicular ganglia in the centre of the medulla oblongata, we have the nervous centre of respiration and deglutition; and in that throughout the medulla spinalis, including the medulla oblongata, we have the nervous system of involuntary actions, with which afferent and efferent nerves communicate,—in the aggregate constituting the *reflex* or *excito-motory system* of Dr. Marshall Hall.

c. The *sympathetic*—as its name imports—appears to be the portion of the nervous system, which is the great medium of association and sympathy; and by which the functions of secretion and nutrition especially are maintained in appropriate consent.

Such is an imperfect epitome of what appear to be the functions of the various parts that collectively constitute the nervous centres.

The concluding part of Mr. Solly's work is on "*Diseases of the Brain*," which he divides into—1. Anæmic affections; 2. Hyperæmic affections; 3. Convulsive affections; and 4. Organic affections; an arrangement which, as he properly remarks, is like every other that has been adopted, of course liable to objections, as they may all run into each other, so that the lines of distinction may be lost; nevertheless, in a practical point of view, he hopes "it will on the whole, be found advantageous."

We cannot dwell upon this portion of the volume. It appears to contain not a very comprehensive account of the various cerebro-spinal affections; and nothing that strikes us as adding materially to our stock of pathological or therapeutical knowledge. Still, we can strongly recommend the whole work to the student, young and old, for rich and rare information touching a most important part of the organism in its healthy and diseased condition.

The work of Dr. Burrows takes a more limited range than that of Mr. Solly. It is restricted, as its title imports, to "Disorders of the Cerebal Circulation," &c. The views of the author, in regard to the varying quantity of blood in the cranium, have often been referred to in the Journals and in the standard treatises on the Practice of Medicine. They ought, indeed, to be familiar to every practitioner, in consequence of the erroneous physiology and pathology, tending to equally erroneous therapeutics, which have been strongly urged by Monro the second, Drs. Abercrombie, Kellie, and Clutterbuck, amongst others. To Dr. Burrows—as Mr. Solly has remarked—belongs the credit of dispelling these illusions. Resting chiefly on the recorded results of certain experiments by Dr. Kellie, of Leith, which were published in the first volume of the "Transactions of the Medico-Chirurgical Society" of Edinburgh, many modern physiologists have maintained, that the quantity of blood in the cranium never varies, and that the brain is

incompressible; and under this notion, Dr. Clutterbuck affirmed "that no additional quantity of blood can be admitted into the vessels situated in the brain, the cavity of the skull being already completely filled by its contents. A plethoric state or overfulness of the cerebral vessels altogether, though often talked of, can have no real existence; nor, on the other hand, can the quantity of blood within the vessels of the brain be diminished; no abstraction of blood, therefore, whether it be from the arm, or other part of the general system, or from the jugular veins, (and still less from the temporal arteries,) can have any effect on the blood-vessels of the brain, so as to lessen the absolute quantity of blood contained in them."

It was important, then, to establish the truth or inaccuracy of these views, which Dr. Burrows has done most conclusively by experiments on animals. From the results of these experiments, he infers, that it is not a fallacy, as some suppose, that bleeding diminishes the actual quantity of blood in the cerebral vessels. By abstraction of blood we not only diminish the momentum of blood in the cerebral arteries and the quantity supplied to the brain in a given time, but we actually diminish the quantity of blood in these vessels. "Whether the vacated place is replaced by serum or resiliency of the cerebral substance under diminished pressure, is another question into which," he says, "I do not now enter."

Dr. Burrows likewise institutes facts and arguments to decide, whether position could affect the condition of the vessels within the skull; as Dr. Kellie had asserted, that the quantity of blood in the cerebral substance is not modified by posture. Two full grown rabbits were killed by hydrocyanic acid, and whilst their hearts were still pulsating, one was suspended by the ears; the other by the hind legs. They were left so suspended for twenty four-hours; and before they were taken down for examination, a tight ligature was placed round the throat of each rabbit, to prevent, as effectually as possible, any further flow of blood to or from the head, after they were removed from their respective positions. The contrast in the appearances presented by the two animals, was most striking. "In the one was to be seen a most complete state of anæmia of the internal as well as external parts of the cranium; in the other a most intense hyperæmia or congestion of the same parts; and these opposite conditions in the vascularity of the brain

induced solely by posture and the gravitation of the blood." The appearances presented in the two cases are represented by lithographic illustrations in Dr. Burrows's work, which we can recommend to the careful perusal of every observer.

The same want of space which occasions us to treat so briefly of Dr. Burrows's excellent production, will enable us only to say, that in the 29th part of the "Cyclopædia of Anatomy and Physiology," which comes to us ever and anon, like 'angel's visits,' we have the termination of a good view of the physiology of the nervous system by Dr. Todd,—not orthodox, according to our views, in all respects, but still an able and excellent essay of the subject.

THE MEDICAL EXAMINER.

PHILADELPHIA, APRIL, 1848.

THE ANNALIST.

We regret to observe an editorial article in this excellent periodical, of the 15th ult., animadverting, in language which we are not accustomed to see in its pages, on the bibliographical notice of "Tracts on Generation" contained in our last number. As it is our desire on all occasions to avoid giving just cause of offence, in anything we may promulgate, we have looked carefully over the obnoxious article, but without discovering anything that ought, as far as we can perceive, to be regarded as illiberal or unfair criticism; nor have we been enlightened in this search by any disproof of the facts or reasonings in the "Notice" afforded by our contemporary.

By turning to the article in the "Examiner," page 190, the reader will find that the introductory portion is occupied with a just rebuke of a practice which all must admit is "more honoured in the breach than the observance;" and whether the rebuke properly applies or not to the "letter" commented on, must be left to the reader to determine. Our brother thinks the eulogies lavished upon "M. Agassiz, the distinguished naturalist," have not been "extravagant," or wanting "in true dignity," because, in his opinion, it was performing a "simple act

of justice." Nothing has been said in our pages to detract from the merits of M. Agassiz, or to deny the justice of all that is alleged of "his great scientific attainments, his pleasing delivery, his amiable manners, and his retiring modesty;" but the "good taste" of such commendation, uttered in the very ear of the object, whether just or not, was and is denied. Beside the "literary hero" who was so lauded and bepraised on his visit to this country some years ago, we have a pretty vivid recollection of the unmeasured commendations of the press in "New Amsterdam," bestowed on "the pleasing delivery" and "almost perfect system of Mnemonicks of Professor Gouraud." If our brethren of New York have not learned wisdom from such experience, they should at least have some charity for those who are less ready than themselves to yield to impulses, although not less ready to appreciate and acknowledge true merit.

The Editor of the "Annalist" confesses that "it may be that the term of '*a German science*,' as applied to ovology, is somewhat hyperbolical;" and we have no doubt that both his readers and ours will agree with him in this. In some future number we shall expect to find him admitting also that the writings of Bischoff do not need to be endorsed by Agassiz or any one else, and that those who translate his productions, should not require the supervision of the distinguished naturalist to ensure the accuracy of their performance.

But what has the editor of the Annalist to do with all this? He is neither author, translator, nor sponsor: why then does *he* take us to task? Who has constituted *him* the censor of other journalists? "Whether this be courteous or just," and whether it be expedient for one journalist to take cognizance of the labours of another, we leave it to "the sober second thought" of "our esteemed confrère" to determine. It is true the editor thinks himself particularly implicated in this matter for the following reason: "Now, as we have seen no eulogies of M. A. in any of our Southern or Eastern exchanges, in which sections of our country only, we believe, M. A. has lectured; and as *we have* spoken in very high terms of this gentleman, both in his social and scientific character, we venture to assume this reproach for ourselves." A very unnecessary assumption, we think. It was not alleged in the Examiner that the laudations were chiefly or at all confined or even contained in medical journals, and if the editor has "seen no eulogies of M. A. in any of his Southern or Eastern exchanges," it is certainly no proof that such never appeared in other publications: but even in his "exchanges," if he will look a little more closely, we think he will yet find some expressions of that kind. Suppose it

to be as he says, that no laudatory notices of M. A. have appeared in any journal but the Annalist, ought not that fact to be regarded as evidence of the correctness of the criticism in the Examiner? Does it not suggest to the editor that he may have been injudicious? Surely he does not wish to be regarded as impliedly charging the conductors of his "Southern and Eastern exchanges" with incapacity to discover or unwillingness to acknowledge great virtues and abilities! And yet such would seem to be the natural inference.

In conclusion, we cannot avoid the expression of our regret that our brother should have given occasion to these remarks by his interference in a matter in which, with all due respect, we must be permitted to think he had no direct concern. Nevertheless, if on examination of the remarks to which he has objected, we had found any such expressions as "*a verbal cavilling based upon a misinterpretation, or a wilful misrepresentation of a single sentence, and a disposition to impute ignorance*," *&c.*, we should indeed have thought the "tone" objectionable, and that our "critical supervision" should "have modified or excluded" such remarks.

SALUBRITY OF PHILADELPHIA.

The able editors of the "Western Journal of Medicine and Surgery," infer from the fact that but two medical students, in a class of 406, have died there during the last session, that Louisville is signally healthy. What then must be the healthfulness of Philadelphia, when only two had died up to the 1st of March last in about 1200. The Catalogues of the University of Pennsylvania and the Jefferson Medical College have alone been published. In these two schools of the *five*, there were nearly one thousand students.

PROFESSOR CHAPMAN.

The Medical Class of the University of Pennsylvania, to testify their respect for their venerable Professor of the Theory and Practice of Medicine, Dr. N. Chapman, have had his portrait painted by Sully, in the best style of that distinguished artist. Beside being a beautiful specimen of art, it is said to be an accurate likeness. On the 22d ult. it was presented with appropriate ceremonies to the Wistar Museum of the University, to be placed by the side of those of the Professor's former colleagues—Physic and Dewees.

EXTENSION OF THE LECTURE-TERM BY THE MEDICAL COLLEGES.

A late number of the Western Lancet, published at Cincinnati and edited by Professors Lawson and Harrison, contains a communication proposing that a Convention of delegates from the Western Schools shall meet at Cincinnati on the third Monday of the present month, "with full power to vote for a specific term for each winter session; also to decide on the expediency of abolishing the rule by which practitioners of four years' standing are permitted to become candidates for graduation, on attending one course of lectures, and also to abolish the credit system." We are glad to observe this movement on the part of the Western schools, and hope it will meet with their unanimous approval. None are so competent to decide on the propriety of extending the term, or the extent to which it should be carried, as those who have experience in the business of teaching. The other abuses proposed to be considered, are so glaring that the wonder is that any respectable school should countenance them.

AMERICAN MEDICAL ASSOCIATION.

By our exchanges we perceive that the various medical institutions of the country will be generally represented in the approaching meeting of the Association. The Counsellors of the Medical Society of Massachusetts have appointed *fifty* delegates. How many more will be sent by other bodies in that state we know not; but at that rate, throughout the country, the number of the whole will be great indeed. Several county societies in Pennsylvania have appointed their representatives, as have all the associations and institutions of Philadelphia. Of the names of all these we have not been informed, but the following we know to have been appointed:

Jefferson Medical College—Professors Huston and Pancoast.

College of Physicians—Drs. Hays, Jackson, Bond, Condie, Fox, A. Stillé, Pepper, King, J. R. Paul and C. D. Meigs.

STATE MEDICAL SOCIETY.

The proposition to form a State Medical Society for Pennsylvania, originally suggested, we believe, by the Chester County Medical Society, has been responded to in a number of the counties. The Lancaster County Medical Society has suggested that the convention for that object shall meet in the city of Lancaster, on the second Tuesday of the present month, (11th inst.,) and both time and place seem to be generally approved. Beside the delegates appointed by the Philadel-

phia Medical Society, published in our last, we have learned of the following:

University of Pennsylvania—Professors Jackson and Gibson.

Jefferson Medical College—Professors Mitchell and Mütter.

College of Physicians—Drs. Jackson, Hays, Carson, La Roche, Griscom, Rodman, J. F. Meigs, Godon, Littell and F. G. Smith.

Northern Medical Association—Drs. Stewart, Maburry, Rhein and Hobson.

Medical Faculty of Harrisburg—Drs. Riley, Henderson, Miller, Wiestling and Roberts.

INTRODUCTORY LECTURES.

These have been so numerous, that we have found it impossible, without being invidious, to notice any portion of them. We observe it asked in some of our contemporaries, whether the opinions expressed in an Introductory Lecture of a Professor are to be regarded as those of the school to which he is attached? They who are at all familiar with the nature of Introductory Lectures, as generally given, are aware that it is but the opening lecture of the Professor to his particular class; and his expressed opinions are as completely his own on every subject discussed as his private or professional sentiments in general. They never can be regarded as those of the school, unless when distinctly stated by him to be so.

RECORD OF MEDICAL SCIENCE.

Case of Congenital Absence of the Globes of both Eyes. By A. B. Williman, M. D.—The subject labouring under the above singular deformity, was presented to my notice, a few months past, by her owner Dr. Mazyck, at his plantation on the Santee river. She is about nine years of age, the last child of a black woman, who has reared a remarkably fine and healthy family, and presents in this relation, an exception to that law of hereditary transmission which establishes resemblance between parent and offspring, and most evidently observed in the features of the countenance. At birth, the infant was seen by Dr. Mazyck, and in a few days after by Dr. James Moultrie of this city, and to both of these gentlemen I am indebted for the following important information in relation to the case at that

early period. Nothing unnatural was observed in the appearance of the face, except the firm adhesion of both eye-lids on their respective sides, when the attempt was made for the first time to open them. As the child appeared to suffer slight pain, no violence was used, and at the end of a week or ten days, there occurred a spontaneous separation for a few lines distance along the tarsal margins, very gentle force exercised with the fingers, soon completed the rupture of the remaining adherent portion, and the result disclosed the absence of the globes above-mentioned. Ever since the period here alluded to, (about two weeks after birth) the eye-lids have remained separated, and we may state from further recent examination, that these appendages, which are perfect in their formation and furnished with puncta and eye-lashes, are lined as usual with a healthy conjunctiva; this membrane extending throughout the entire inner surface of the orbit, was reflected rather firmly over a more resistant tissue deeply situated, (perhaps the rudiments of a sclerotic coat,) although beneath this, no protrusion was visible, and a probe passed over its surface could detect no openings. The existence of the orbicular muscles is evident, as their contraction rather inverts than elevates the lids, from the want of that point or fulcrum which is afforded by the globes in their normal state. It seemed also clear, after an examination of several days, that in both cavities there existed the secretion of a fluid resembling the tears, the lachrymal gland being in its normal position, and easily felt by slight pressure.

The orbitar margins are well developed below, but at their superior external portion appear somewhat deficient, giving to the superciliary ridges a slightly depressed form, and to the whole forehead a contracted character, often observed in persons deficient in intelligence. The girl, however, with the loss of the most important of the organs of sense, manifests a singular degree of intelligence in many others. Her disposition is cheerful; hearing is quite acute; and she possesses a remarkable power of distinguishing bodies by the touch, although not to that extent, as has been pretended, of forming ideas of colour in this manner.

As we shall probably forever be deprived of the means of verifying by post-mortem examination, (the girl living at too great a distance in the country,) to what extent the arrest of development may exist in the case just detailed, it now seems necessary to advert to some objections which may be entertained against the opinion of the present instance being one of original malformation.

The rarity of similar examples seems so great, as to demand a careful consideration of our case, before pronouncing on this point. In the extensive work of St. Geoffrey St. Hilaire, "Histoire des Anomalies de l'organization chez l'Homme et les Animaux," it is surprising, and not less matter of regret, that there should be no mention made of instances of malformation of the eyes, from an arrest of development; all his examples being a plurality of these organs in one orbit, or their singular position on other parts of the body. Such an account may also be found in Weller's "Maladies des Yeux," where he says:

"The seat of the eyes was not always the same; sometimes they were found in their natural place, and again on remote situations, as, for instance, on the occiput, on the shoulders, the chest; Shenk relates even having found them on the thighs." The only examples agreeing nearly with our own, have been related by the author cited above, (Weller) and are as follows: "Cases have been seen in which new born children possessed but one eye, and others, (which are the most frequent,) where they were completely deprived of them, with or without absence of the orbit. Amongst modern authors, Adam Schmidt relates the instance of a child deprived of eyes which lived six weeks. In making the autopsy, he found only the orbit, the lachrymal gland, the third pair of encephalic nerves, the first branch of the fifth pair, and the ophthalmic artery: the optic nerve was entirely wanting, and the foramen through which it ordinarily passes, was completely obliterated, or rather did not exist. We read in the same volume of this journal the history of a similar case, observed by Malacarne. The child which was the subject of it lived two months; there was found in the orbit only the lachrymal gland and caruncula, the eye-lids and lachrymal canals."

Sufficient proof is here given, that children wanting the eyes from their arrest of development, have been instanced as living for some time after birth, and although we might infer so considerable defect in the bony structure of the forehead and anterior portions of the brain, as in common language to constitute a monstrosity, these are evidently not always requisite. Our case may be an example, together with those cited from Schmidt and Malacarne, where the orbit, lachrymal gland, and eye-lids were developed, with nothing unusual in the surrounding parts.

There is nothing to induce the suspicion in this case, that during fœtal life the eyes may have been destroyed by disease, such as syphilis or scrofula; for in addition to such being a very rare occurrence, perhaps one unknown, the child exhibits not the least trace of these affections in its constitution, and this is equally true of the parents. The condition of all the other children being, as has been stated, remarkably healthy, is an additional objection to such a belief.

A complete absence of all inflammation, (and still more the violent form exhibited in the disease of purulent opthalmia) must dismiss the idea that this malady might have been the destroying cause of the eyes in the above case. It will be seen on reference to the details, that the tarsal margins were simply adherent, at the time of birth, that after the lapse of a few days when their separation occurred, no evacuation of pus nor the humours of the eye had taken place; when inspection was made of the parts hitherto concealed by the lids, the sclerotic coat showed the perfectly normal character, which may be seen at the present time, except that the position is at the most posterior part of the orbit, and gives no trace of a cornea, iris, nor any thing of the following description by Lawrence. "When the entire cornea has sloughed, and the humours of the eye have been evacu-

ated, the tunics collapse, and the globe shrinks to one-third its original size, appearing as an opaque flattened tubercle."—*Charleston Med. Journ. and Review.*

Ship Typhus Fever in New Orleans.—The newspapers announce an extensive prevalence of this fever among the European immigrants of New Orleans. During the summer and early autumn of last year, the disease was by no means unknown in that city; but immigration was, of course, limited, for the St. Lawrence was then the channel, and Quebec, or, rather, its quarantine ground, thirty miles below, the point of debarcation. For half the year, *that* entrance is closed by ice; and during most of the other half, the climate of the Gulf of Mexico and the lower Mississippi, renders admittance into our country by *that* route extremely hazardous to foreigners on account of yellow fever. Thus, through the hot season, the chief current of immigration strikes our shores in the north—through the cold season, in the south. It has become perpetual, and in volume is on the increase. A vast majority of the immigrants, especially of those from Ireland, are miserably poor and dirty; they arrive with typhus, generated on the voyage, and they communicate it to those who receive and nurse them. It appears by the New Orleans Picayune of the 11th of February, that there were, at that time, more than five hundred cases of ship fever in the crowded wards of the Charity hospital; which thus seems likely to become as distinguished, in reference to typhus, as it has long been in reference to yellow fever. Two of the Sisters of Charity, who nobly devote themselves to the sick, had fallen victims, and one of the Professors of the Louisiana Medical School and several of its pupils, from labouring in the wards, had also been ill.

When and how will this alarming state of things come to an end? Is it not the duty of our Federal Government to interpose? We might insist, that the Governments of Europe shall so regulate the transportation of emigrants from their ports, as to prevent, if possible, the development of typhus among them. This, doubtless, could be accomplished by diminishing the number who are, at present, crowded on board each ship; secondly, by securing cleanliness and change of apparel and bedding; thirdly, by free ventilation; fourthly, by an abundant supply of healthy food; and lastly, by preventing the embarcation of any who are in the forming stage of the fever. Moreover, if there be any efficacy in Burnett's or Ledoyen's disinfecting compounds, emigrant ships are the places in which above all others they should be employed.

If the governments of the kingdoms of Europe would not, under due representations from our own, establish these or other sanitary regulations, the latter should prohibit the landing of all immigrants from ships which do not conform to them. As to the city of New Orleans, she ought, in immediate self-defence, to erect sheds upon the coast above or below the city, and not permit immigrants to enter

it until they shall have passed several weeks in those temporary residences, under such hygienic discipline as her medical advisers might direct. The necessity for this will appear still more obvious on reading the following extract from the publication to which we have referred:

"The board of directors of the hospital have advices from Europe to the effect, that within the current year some forty thousand emigrants will sail for this place, if shipping can be had. Of these, it is judged, from the experience of the past year, that ten thousand will find their way to the hospital immediately upon landing. Some permanent arrangements should be made for this influx of disease; meanwhile, the present condition of the city requires immediate provision. The next arrival from Europe may overflow the hospital and infect the city."

One may at first be surprised that so great an immigration should take the circuitous New Orleans route, but we must remember that numerous ships come to that port for cotton, with little else than ballast, and that it is in them, at a low rate, that the poor emigrants come over.—*Western Journal of Medicine and Surgery.*

DEATH FROM THE INHALATION OP CHLOROFORM.

Report of the principal facts connected with a fatal case of Chloroform Inhalation, which occurred in Cincinnati, on the 23d of February, 1848.

General History.—The subject of the following report, Mrs. Martha G. Simmons, was at the time of her decease, thirty-five years and ten months old. Her husband states that she generally enjoyed excellent health; sometimes she was "nervous," and suffered occasionally with neuralgic pains about the face, and pain in the ear, apparently arising from decayed teeth. She also suffered at times from "sick headache." She was the mother of six children, five or whom were still living; her last accouchement occurred eight weeks previous to her death. Nothing unusual occurred, either at the time of parturition or subsequently; her health remained good, and the ordinary quantity of milk was secreted.

On the 23d of February, she dined at a quarter past 12 o'clock, and after dinner walked to a dentist's, a distance of about three-fourths of a mile, for the purpose of having some roots of teeth extracted. She arrived at the dentist's 16 minutes before 3 o'clock, appeared slightly flushed from the exercise of walking, but exhibited no alarm on account of inhaling the chloroform.

At 3 o'clock, 15 minutes after her arrival, Mrs. S. commenced inhaling chloroform. Mrs. Pearson and Mrs. Cross, two female friends, were present, and report the following as the events which occurred: The respiratory movements appeared to be free—chest heaving. While inhaling, *the face became pale*. At the expiration of about *one minute*, the instruments were applied, and four roots of teeth extracted. The patient groaned, and manifested what they

regarded as evidences of pain, while the teeth were being extracted, although she did not speak, or exhibit any other sign of consciousness. As the last root came out, which was about two minutes from the beginning of the inhalation—patient's head turned to one side, arms became slightly rigid, body drawn somewhat backwards, with a tendency to slide from the operating chair. At this instant, Mrs. Pearson states that she placed her finger upon the patient's pulse, observed that it was feeble and immediately ceased to beat; respiration also ceased *about* the same time. The face, which was previously pale, now became livid, as also did the finger nails; the lower jaw dropped, and the tongue projected a little at one corner of the mouth, and the arms were perfectly relaxed. The females regarded her as being then quite dead. Efforts were made to resuscitate the patient—ammonia was applied to the nostrils, cold water dashed in the face, mustard, brandy, &c. applied. The patient was now removed from the operating chair and laid on a sofa; but she did not breathe, nor exhibit any sign of life, after being placed in the recumbent position.

Statement of the Dentists.—Messrs. Meredith and Sexton, the Dentists who operated in the above case, make the following statement: The patient took the chloroform vapour from Morton's inhaler; it contained a sponge (perhaps one-third filling the glass globe of 4½ inches diameter) saturated with the liquid; to this 25 drops more were added when the patient began inhaling. Breathing at first slow; inhaled 12 or 15 times, occupying from a minute to 75 seconds. One of the dentists thinks she remained about *ten* minutes in the operating chair, and that life was not extinct until the end of that time; the other estimates the time at *five* minutes. One says he does not know whether she breathed after being laid on the sofa or not; the other thinks she did not.

The only material difference between the statements of the females and the dentists, relates to the length of time which elapsed from the beginning of the inhalation to the instant of death. The females estimate it at about 2 minutes; the dentists at from 5 to 10 minutes. It is clear, however, that the patient could not have been laid on the sofa short of five or ten minutes; for one of the dentists went out to a neighbouring establishment twice to procure resuscitating agents before the patient was removed from the chair, which probably occupied the time specified. But whether the patient continued to breathe during those five or ten minutes, or whether the pulse and respiration ceased at the end of two minutes, when the last tooth was extracted, as supposed by Mrs. Pearson, seems impossible positively to decide. The most that can be said is, that she died within a very short time—not exceeding *ten* and possibly at the end of *two* minutes.

Medical aid.—After the patient was laid on the sofa, medical aid was sought, and Dr. A. H. Baker was the first physician who arrived; this was probably 30 minutes after respiration had ceased. He immediately pronounced her dead, but proceeded to employ vigorous measures for resuscitation. The principal means employed

consisted in artificial respiration, electro-magnetism, and external stimulants. Prof. Locke applied electro-magnetism, which caused active muscular contraction, but no evident effect on the heart. About an hour after the accident, Professors Mussey and Lawson arrived, and aided in the further employment of the means above specified. Not the slightest sign of life was manifested after the arrival of Dr. Baker; the heart did not respond to the electricity, and the only change produced was some slight removal of the lividity of the countenance by the artificial respiration.

Post-Mortem Examination.—The post-mortem examination was made twenty-six hours after death. Present—Drs. Mussey, Lawson, Baker and Mulford.

Examination by Dr. Lawson. Record by Dr. Mussey.

External appearances.—Lips livid, but face pale; bloody froth issuing from the mouth. Anterior surface of body and limbs free from discoloration, but posteriorly the skin presented a deep livid hue. Cornea dull and flaccid, and a dull-red horizontal belt extended across each eye, corresponding to the part which was unprotected by the lids; this belt was one-tenth of an inch in diameter, and made its appearance a few hours after death. Limbs quite rigid. Abdomen distended with gas. Patient rather muscular; weight probably from 140 to 150 pounds; hair dark; eyes dark brown; temperament sanguineo-bilious.

Brain.—Integuments contained but little blood. On removing the upper part of the skull, a larger quantity of blood than usual flowed from the vessels of the dura mater. Superficial vessels of the brain moderately distended; two or three ounces of fluid blood, intermixed with bubbles of air, flowed from the sinuses of the dura mater. General aspect, colour, and consistence of the brain normal.

Lungs.—Considerably but not intensely congested: crepitated freely at all points; no extravasation. Lining membrane of bronchia slightly congested, apparently the result of recent catarrh; deeply stained by the blood. Pleura at all points highly injected; six drachms bloody serum in the right, and two ounces in the left chest.

Heart and large Blood-Vessels.—Pericardium contained six drachms of bloody serum. Heart flaccid, *and all its cavities entirely empty;* inner surface of both ventricles and auricles deeply stained. Aorta and pulmonary artery empty; no blood in the cava within the chest, and a very small quantity in the part which lies within the abdomen; indeed, so small was the amount that it could not be appreciated until the vessel was opened. Lining membrane of all the blood vessels deeply stained.

Abdomen.—One ounce and a half of bloody serum in the right hypochondrium. Stomach and intestines distended with gas. Partially digested aliment, amounting to about three gills, was found in the stomach. Liver paler than natural, arising from the absence of blood; kidneys considerably engorged. No marks of previous disease in any of the abdominal organs. Uterus and bladder normal;

the former exhibited the usual condition of the organ two months after delivery.

Blood.—Fluid as water in every part of the body; not a coagulum was seen in any vessel. Examined with the microscope, the globules appeared altered somewhat in form; some were irregular in shape, and they seemed generally distended and more globular than is normal; they were also somewhat fragmentary, a part apparently having been ruptured; their number seemed somewhat diminished. The colour, in every part of the system, was that of dark venous blood.

Sympathetic nerve.—The sympathetic nerve, together with its larger ganglia, including the semilunar ganglion, presented a natural colour.

The Chloroform used.—The specific gravity of the chloroform employed was found to be 1.3. It contained some alcohol, but upon the whole it is regarded as a fair article; it was the same which the dentists had previously used in numerous cases without any unpleasant results.—*Western Lancet.*

Lithotrity in Children.—In the course of some clinical remarks on a case of stone in a child four years of age, at the Hôpital des Enfans, M. Guersant, jun., referred to the following table of results of operations for stone in children by lithotomy and by lithotrity. He stated, that in fifty-one children who had been in the hospital with urinary calculi, he had performed lithotomy in thirty-seven; that in thirty of these a cure was effected, whilst only seven died; but of those seven deaths, four were attributable to intercurrent maladies, and not to the consequences of the operation. Further, that he had employed lithotrity in eight cases, of which five were cured and three died; but only one of the latter as a result of the operation. The six remaining cases of the fifty-one were examples of calculi in the urethra, readily removed.

Thus the result of both operations were equally satisfactory; but, according to the accepted practice of the hospital, lithotomy is preferred where the calculus is large, lithotrity where it is small. Lithotrity presents certain disadvantages, it is true: for instance, considerable sized fragments left in the bladder, will, on account of the ready dilatability of the neck of the bladder, and the free and strong emission of urine in children, pass into the urethra, and there get impacted, so as to render another operation necessary for their removal; however, this is not of so common an occurrence as to forbid our employment of lithotrity.

M. Guersant then gives an account of the recent case in which he operated, and where he succeeded in crushing the stone in five or six times.—*London Lancet.*

BIRMINGHAM PATHOLOGICAL SOCIETY.

Ulcer of the Stomach: Perforation.—October 10th, 1847. Mr. Russell was called to see, with Dr. Melson, a servant, middle aged, mother of two children, to whom Dr. Melson had been called early in the day; she had often been a free patient of Dr. Melson's, suffering from dyspepsia and gastrodynia. In the morning Dr. Melson had found her with great pain in the belly, and vomiting; abdomen much swollen and extremely tender; she had not been able to micturate. He ordered two grains of opium, four grains of calomel, and a prussic acid mixture. In the evening Dr. Melson and Mr. Russell found her in bed on her back; the vomiting had ceased, but she was in great pain; her pulse quick, but not feeble; tongue dry; abdomen very tympanitic, and extremely tender; bladder empty. At 10 P. M. she was much the same, the abdominal tenderness had increased, but the pulse was firm. She died between one and two in the night.

Sectio Cadaveris, forty hours after death.—The body was well nourished, and had a healthy aspect; the abdomen greatly distended; a large chamber-pot was quite filled with yellowish fluid, contained in the abdomen, in which were floating globules of castor oil, which she had taken of her own accord immediately before her death; the surface of the bowels was vascular, and thinly coated with recent lymph; the intestines perfectly healthy throughout, and without a trace of ulceration; stomach appeared healthy externally, but on being opened, a round ulcer, large enough to allow a lead pencil to pass, was found in the upper part of the anterior wall, to the left of middle line; it was clean cut, and a few fine shreds of cellular tissue still stretched across it. The mucous membrane of the organ I thought rather soft, as it did not tear off in strips, and the muscular coat was hypertrophied; the stomach offered unusual resistance to the scissors, and the middle coat was seen whiter and thicker than usual. There was a fibrous tumour, about the size of a large walnut, in the wall of the uterus.

The subject of the second case was a servant girl; she was only ill for a few hours. She had been subject to femoral hernia of the right side, but it was reducible at the time of her decease. An inquest was held on the body on account of the suddenness of the death.

The abdomen was distended with about three quarts of yellowish fluid; the surface of the intestine covered with recent lymph. The stomach was perforated by a round ulcer, about the size, internally, of the end of the little finger; externally, somewhat smaller, in the upper and left part of the anterior wall; the perforation was situated in a very thickened portion of the coats of the organ, and was about the size of a crown-piece. The stomach afforded unusual resistance to the scissors when cut; intestines healthy; hernia reduced; the liver presented a peculiar sodden appearance.

This specimen was sent to Mr. Russell by Mr. Percival, who opened the body, but could not learn more of the history of the case.

Rupture of the Fallopian Tube.—The following was the history of the ruptured Fallopian tube:—

Mr. Russell was sent for hastily at half-past two, P. M., to a young lady, about twenty-five, married about four months. He found her in bed, in a state of great collapse; skin cold, pale, and bloodless, and she complained of intense pain in her bowels. She had been sick, and had had three purging stools; abdomen very tympanitic and tender. She had been in this state for two hours, without having been able to procure advice. He could obtain but little information from herself as to her previous state, and could not trace her having ever suffered any local pain. She did not think herself in the family way, as she had menstruated a fortnight previously, and had not experienced any symptom which would lead her to suppose herself pregnant. Mr. Russell had little doubt that some perforation existed, and would have supposed it seated in the bowels, but that her bowels had been moved, which he never knew to occur in such cases. She referred her pain chiefly to the præcordia. Her pulse was scarcely perceptible. Fomentations, opium, and ammonia, as she objected to brandy, were ordered. She somewhat recovered, but soon sank again, and died in great pain early on the following morning.

Sectio Cadaveris.—On opening the abdomen, a quantity of thin fluid, tinged with blood, flowed out. At the lower part of the abdomen was a large clot, the size of a saucer, and on removing this the left Fallopian tube was found ruptured. The rupture was situated near the junction of the middle and inner third of the tube; the ruptured portion was distended by a mass of fibrin, about the size of a hazel nut, in which, however, no ovum was discoverable; the wall of the distended portion was very thin. The uterus was enlarged, and contained a deposit of decidua.

Singular Case of Twins.—Mr. Hill presented a blighted fœtus, apparently about the fifth month, which was born thirty-six hours before a fully-developed healthy fœtus. He gave the following report of the case:—

I was requested to see Mrs. J., a middle-aged woman, the mother of several children, the gentleman in attendance thinking it was the shoulder that presented; but upon a more careful examination, (the labour having proceeded somewhat,) we discovered that it was the head of a child, apparently about four months. The membranes were ruptured, and the child expelled. The labour pains then subsided, and it was about thirty-six hours after that a second child of the ordinary size, and alive, was born. The placenta was double, and did not differ from that of an ordinary twin case.

Prov. Med. and Surg. Journ.